

APPENDIX G

Cost / Benefit Analysis

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State of Tennessee

ERP Automation Assessment Project

Estimated Hours															
Phases -->		Acquire.	HR/Payroll			Fin/Purch	TDOT	Upgr.							
	Cost Category	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total	% of Total	% of Contractor
1	Project Management		5,400	5,400	5,400	5,400	5,400						27,000	1.5%	8.7%
2	Independent Project Oversight	4,200	5,400	5,400	5,400	5,400	5,400						31,200	1.8%	10.0%
	Software Configuration & Process Re-engineering														
3															
4	Financial Mgmt., Budget Dev., Procure., Inventory				25,000	20,000	14,000						59,000	3.3%	18.9%
5	HR/Payroll		18,000	18,000									36,000	2.0%	11.6%
6	Total Software Installation, Configuration & Process Re-engineering	0	18,000	18,000	25,000	20,000	14,000	0	0	0	0	0	95,000	5.4%	30.5%
7	Workflow Configuration														
8	Financial Mgmt., Budget Dev., Procure., Inventory				1,333	988	395						2,716	0.2%	0.9%
9	HR/Payroll		1,050	1,235									2,285	0.1%	0.7%
10	Total Workflow Configuration	0	1,050	1,235	1,333	988	395	0	0	0	0	0	5,000	0.3%	1.6%
11	Custom Development														
12	Interfaces														
13	Financial Mgmt., Budget Dev., Procure., Inventory				867	7,805	480						9,152	0.5%	2.9%
14	HR/Payroll		691	2,765									3,456	0.2%	1.1%
15	Total Interfaces	0	691	2,765	867	7,805	480	0	0	0	0	0	12,608	0.7%	4.0%
16	Software Modifications														
17	Financial Mgmt., Budget Dev., Procure., Inventory				6,578	2,138	1,645						10,360	0.6%	3.3%
18	HR/Payroll		3,289	2,796									6,085	0.3%	2.0%
19	Total Software Modification	0	3,289	2,796	6,578	2,138	1,645	0	0	0	0	0	16,445	0.9%	5.3%
20	Report Development														
21	Financial Mgmt., Budget Dev., Procure., Inventory				4,200	2,040	1,080						7,320	0.4%	2.3%
22	HR/Payroll		2,040	2,640									4,680	0.3%	1.5%
23	Total Report Development	0	2,040	2,640	4,200	2,040	1,080	0	0	0	0	0	12,000	0.7%	3.9%
24	Data Conversion / Loading														
25	Financial Mgmt., Budget Dev., Procure., Inventory				355	1,421	480						2,256	0.1%	0.7%
26	HR/Payroll		355	1,421									1,776	0.1%	0.6%
27	Total Data Conversion / Loading	0	355	1,421	355	1,421	480	0	0	0	0	0	4,032	0.2%	1.3%
28	Organizational Change Management														
29	Executive Sponsorship & Communication		1,800	3,600	3,600	3,600	3,600						16,200	0.9%	5.2%
30	Other												0	0.0%	0.0%
31	Total Change Management	0	1,800	3,600	3,600	3,600	3,600	0	0	0	0	0	16,200	0.9%	5.2%
32	Training & Documentation														
33	Project Team Training (estimated in \$, not hours)														
34	Financial Mgmt., Budget Dev., Procure., Inventory														
35	HR/Payroll														
36	Total Project Team Training														
37	End User Training														
38	Financial Mgmt., Budget Dev., Procure., Inventory				8,400	11,600	7,600						27,600	1.6%	8.9%
39	HR/Payroll		5,600	6,800									12,400	0.7%	4.0%
40	Total End User Training	0	5,600	6,800	8,400	11,600	7,600	0	0	0	0	0	40,000	2.3%	12.8%
41	Total Training & Documentation	0	5,600	6,800	8,400	11,600	7,600	0	0	0	0	0	40,000	2.3%	12.8%
42	Infrastructure Development & Project Support		5,400	5,400	5,400	5,400	5,400						27,000	1.5%	8.7%
43	Post-Implementation Support														
44	Financial Mgmt., Budget Dev., Procure., Inventory					9,000		7,200					16,200	0.9%	5.2%
45	HR/Payroll												9,000	0.5%	2.9%
46	Total Post-Implementation Support	0	0	0	9,000	9,000	0	7,200	0	0	0	0	25,200	1.4%	8.1%
47	Total Contractor Hours	4,200	49,025	55,456	75,534	74,791	45,480	7,200	0	0	0	0	311,685	17.6%	100.0%
48		2.3	27.2	30.8	42.0	41.6	25.3	4.0	-	-	-	-			
49	State Employee Implementation Hours	46,769	73,538	139,834	113,300	146,296	68,219	10,800	0	0	0	0	598,757	33.8%	
	FTEs	26.0	40.9	77.7	62.9	81.3	37.9	6.0	-	-	-	-			
50	Grand Total Implementation Hours	50,969	122,564	195,290	188,834	221,087	113,699	18,000	0	0	0	0	910,442	51.4%	
52															
53	Application Software License (not hours-based)														
54	Financial Mgmt., Budget Dev., Procure., Inventory														
55	HR/Payroll														
56	Total Application Software License														
57	Software Maintenance Fee (not hours-based)														
58	Financial Mgmt., Budget Dev., Procure., Inventory														
59	HR/Payroll														
60	Total Software Maintenance Fee														
61	All Other (facilities, etc.)														
62	Annual Operating Costs (data center)														
63	Total Implementation	50,969	122,564	195,290	188,834	221,087	113,699	18,000	0	0	0	0	910,442	51.4%	
64															
65	Ongoing Support / Operations														
66	Help Desk / Functional Support (central)				20,160	29,610	39,060	39,060	39,060	39,060	39,060	39,060	284,130	16.1%	
	FTEs				11.2	16.5	21.7	21.7	21.7	21.7	21.7	21.7			
67	Help Desk / Functional Support (in agencies)				8,640	12,690	16,740	16,740	16,740	16,740	16,740	16,740	121,770	6.9%	
	FTEs				4.8	7.1	9.3	9.3	9.3	9.3	9.3	9.3			
68	Technical Operations and Support				16,200	24,300	32,400	32,400	32,400	32,400	32,400	32,400	234,900	13.3%	
	FTEs				9.0	13.5	18.0	18.0	18.0	18.0	18.0	18.0			
69	Ongoing Training				5,400	9,900	14,400	14,400	14,400	14,400	14,400	14,400	101,700	5.7%	
	FTEs				3.0	5.5	8.0	8.0	8.0	8.0	8.0	8.0			
70	Other				-	-	-	-	-	-	-	-	0	0.0%	
71	Total Support / Operations	0	0	0	50,400	76,500	102,600	102,600	102,600	102,600	102,600	102,600	742,500	42.0%	
72	FTEs	-	-	-	28.0	42.5	57.0	57.0	57.0	57.0	57.0	57.0			
73															
74	Upgrade in Year 6														
75	Contractor Hours							46,753					46,753	2.6%	
76	State Employee Hours							70,129					70,129	4.0%	
77	Total Upgrade Hours							116,882					116,882	6.6%	
78															
79	Total Annual ERP	50,969	122,564	195,290	239,234	297,587	216,299	237,482	102,600	102,600	102,600	102,600	1,769,824	100.0%	

State of Tennessee

ERP Automation Assessment Project

Estimated Costs Schedule

	Phases -->	Acquire.	HR/Payroll			Fin/Purch.	TDOT		Upgrade					% of Total	
	Cost Category	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Impl. (people)	10-yr Total
1	Project Management	-	1,242,000	1,242,000	1,242,000	1,242,000	1,242,000	-	-	-	-	-	\$ 6,210,000	7.3%	3.7%
2	Independent Project Oversight	840,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	-	-	-	-	-	\$ 6,240,000	7.3%	3.7%
3	Software Configuration & Process Re-engineering														
4	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	5,750,000	4,600,000	3,220,000	-	-	-	-	-	\$ 13,570,000		
5	HR/Payroll	-	4,140,000	4,140,000	-	-	-	-	-	-	-	-	\$ 8,280,000		
6	Total Software Configuration & Process Re-engineering	-	4,140,000	4,140,000	5,750,000	4,600,000	3,220,000	-	-	-	-	-	\$ 21,850,000	25.6%	13.0%
7	Workflow Configuration														
8	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	306,650	227,148	90,859	-	-	-	-	-	\$ 624,657		
9	HR/Payroll	-	241,500	283,935	-	-	-	-	-	-	-	-	\$ 525,435		
10	Total Workflow Configuration	-	241,500	283,935	306,650	227,148	90,859	-	-	-	-	-	\$ 1,150,092	1.3%	0.7%
11	Custom Development														
12	Interfaces														
13	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	199,456	1,795,104	110,400	-	-	-	-	-	\$ 2,104,960		
14	HR/Payroll	-	158,976	635,904	-	-	-	-	-	-	-	-	\$ 794,880		
15	Total Interfaces	-	158,976	635,904	199,456	1,795,104	110,400	-	-	-	-	-	\$ 2,899,840	3.4%	1.7%
16	Software Modifications														
17	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	1,512,940	491,706	378,235	-	-	-	-	-	\$ 2,382,881		
18	HR/Payroll	-	756,470	643,000	-	-	-	-	-	-	-	-	\$ 1,399,470		
19	Total Software Modification	-	756,470	643,000	1,512,940	491,706	378,235	-	-	-	-	-	\$ 3,782,350	4.4%	2.3%
20	Report Development														
21	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	966,000	469,200	248,400	-	-	-	-	-	\$ 1,683,600		
22	HR/Payroll	-	469,200	607,200	-	-	-	-	-	-	-	-	\$ 1,076,400		
23	Total Report Development	-	469,200	607,200	966,000	469,200	248,400	-	-	-	-	-	\$ 2,760,000	3.2%	1.6%
24	Data Conversion / Loading														
25	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	81,696	326,784	110,400	-	-	-	-	-	\$ 518,880		
26	HR/Payroll	-	81,696	326,784	-	-	-	-	-	-	-	-	\$ 408,480		
27	Total Data Conversion / Loading	-	81,696	326,784	81,696	326,784	110,400	-	-	-	-	-	\$ 927,360	1.1%	0.6%
28	Organizational Change Management														
29	Executive Sponsorship & Communication	-	414,000	828,000	828,000	828,000	828,000	-	-	-	-	-	\$ 3,726,000		
30	Other	-	-	-	-	-	-	-	-	-	-	-	\$ -		
31	Total Change Management	-	414,000	828,000	828,000	828,000	828,000	-	-	-	-	-	\$ 3,726,000	4.4%	2.2%
32	Training & Documentation														
33	Project Team Training														
34	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	200,000	100,000	-	-	-	-	-	-	\$ 300,000		
35	HR/Payroll	-	300,000	-	-	-	-	-	-	-	-	-	\$ 300,000		
36	Total Project Team Training	-	300,000	-	200,000	100,000	-	-	-	-	-	-	\$ 600,000	0.7%	0.4%
37	End User Training														
38	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	1,932,000	2,693,000	1,748,000	-	-	-	-	-	\$ 6,373,000		
39	HR/Payroll	-	1,288,000	1,579,000	-	-	-	-	-	-	-	-	\$ 2,867,000		
39	Total End User Training	-	1,288,000	1,579,000	1,932,000	2,693,000	1,748,000	-	-	-	-	-	\$ 9,240,000	10.8%	5.5%
40	Total Training & Documentation	-	1,588,000	1,579,000	2,132,000	2,793,000	1,748,000	-	-	-	-	-	\$ 9,840,000		
41	Infrastructure Development & Project Support	-	1,242,000	1,242,000	1,242,000	1,242,000	1,242,000	-	-	-	-	-	\$ 6,210,000	7.3%	3.7%
42	Post-Implementation Support														
43	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	2,070,000	-	1,656,000	-	-	-	-	\$ 3,726,000		
44	HR/Payroll	-	-	-	2,070,000	-	-	-	-	-	-	-	\$ 2,070,000		
45	Total Post-Implementation Support	-	-	-	2,070,000	2,070,000	-	1,656,000	-	-	-	-	\$ 5,796,000	6.8%	3.5%
46															
46	Total Contractor Cost	840,000	11,413,842	12,607,823	17,410,742	17,164,942	10,298,294	1,656,000	-	-	-	-	\$ 71,391,642	83.6%	42.5%
47	State Employee Implementation Cost (backfill)	1,091,278	1,715,889	3,262,790	2,643,678	3,413,579	1,591,784	252,000	-	-	-	-	\$ 13,970,998	16.4%	8.3%
48	Grand Total Implementation Cost (people only)	1,931,278	13,129,731	15,870,613	20,054,420	20,578,520	11,890,078	1,908,000	-	-	-	-	\$ 85,362,640	100.0%	50.9%

State of Tennessee

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	Phases -->	Acquire.	HR/Payroll		Fin/Purch.	TDOT		Upgrade						% of Total	
	Cost Category	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Impl. (people)	10-yr Total
49															
50	Application Software License														
51	Financial Mgmt., Budget Dev., Procure., Inventory				5,500,000								\$ 5,500,000		
52	HR/Payroll		4,500,000										\$ 4,500,000		
53	Total Application Software License	-	4,500,000	-	5,500,000	-	-	-	-	-	-	-	\$ 10,000,000		6.0%
54	Software Maintenance Fee														
55	Financial Mgmt., Budget Dev., Procure., Inventory				990,000	990,000	990,000	990,000	990,000	990,000	990,000	990,000	\$ 7,920,000		
56	HR/Payroll		810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	\$ 8,100,000		
57	Total Software Maintenance Fee	-	810,000	810,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	\$ 16,020,000		9.5%
58	All Other (facilities, etc.)		310,000	310,000	310,000	310,000	310,000	310,000					\$ 1,860,000		1.1%
59	Annual Operating Costs (data center)		722,892	872,892	1,545,783	1,445,783	1,495,783	1,445,783	1,445,783	1,445,783	1,445,783	1,445,783	\$ 13,312,048		7.9%
60															
61	Total Implementation Cost	1,931,278	19,472,623	17,863,504	29,210,203	24,134,303	15,495,861	5,463,783	3,245,783	3,245,783	3,245,783	3,245,783	\$ 126,554,688		75.4%
62															
63	Ongoing Support / Operations														
64	Help Desk / Functional Support (central)	-	-	-	784,000	1,151,500	1,519,000	1,519,000	1,519,000	1,519,000	1,519,000	1,519,000	\$ 11,049,500		6.6%
65	Help Desk / Functional Support (in agencies)	-	-	-	336,000	493,500	651,000	651,000	651,000	651,000	651,000	651,000	\$ 4,735,500		2.8%
66	Technical Operations and Support	-	-	-	630,000	945,000	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	\$ 9,135,000		5.4%
67	Ongoing Training	-	-	-	210,000	385,000	560,000	560,000	560,000	560,000	560,000	560,000	\$ 3,955,000		2.4%
68	Other	-	-	-	-	-	-	-	-	-	-	-	\$ -		
69	Total Support / Operations	-	-	-	1,960,000	2,975,000	3,990,000	3,990,000	3,990,000	3,990,000	3,990,000	3,990,000	\$ 28,875,000		17.2%
70															
71	Upgrade in Year 6														0.0%
72	Contractor							10,753,146					\$ 10,753,146		6.4%
73	State Employees							1,636,348					\$ 1,636,348		1.0%
74	Total Upgrade Cost							12,389,495					\$ 12,389,495		7.4%
75															
76	Total Annual ERP Cost	1,931,278	19,472,623	17,863,504	31,170,203	27,109,303	19,485,861	21,843,278	7,235,783	7,235,783	7,235,783	7,235,783	\$ 167,819,183		100.0%
77															
78	Cumulative ERP Cost	1,931,278	21,403,900	39,267,405	70,437,608	97,546,911	117,032,772	138,876,050	146,111,833	153,347,616	160,583,400	167,819,183			

COST TO IMPLEMENT AND MAINTAIN A STATEWIDE ERP SYSTEM

Key Assumptions

Below are the primary assumptions used in estimating the cost to implement and maintain a statewide ERP system.

General

- ◆ It is assumed that a full-time equivalent number of hours per year is 1,800
- ◆ All amounts are in current dollars (i.e., no adjustments have been made for inflation)
- ◆ An average hourly, expense-loaded rate for contractors of \$230 is assumed for all contractors, except for the work performed by contractors during Year 0, and for the Independent Project Oversight activities which will be performed for an average hourly, expense-loaded rate of \$200.

The table below presents rate information submitted by the respondents to the RFI that was distributed as part of the ERP Automation Assessment Study.

Respondent	Hours from Schedule	Fee Amount with Hrs. Associated	Average Hourly Rate
AMS	253,534	\$ 58,030,090	\$ 229
Lawson	190,980	\$ 37,642,800	\$ 197
Oracle	102,600	\$ 27,140,000	\$ 265
PeopleSoft	317,769	\$ 67,731,130	\$ 213
SAP	185,830	\$ 53,382,000	\$ 287
Average	262,678	\$ 60,981,505	\$ 238

- ◆ The deployment strategy will be as follows:
 - Phase 1: Human Resources, Payroll Administration, and Benefits Administration functionality will be implemented at all state agencies over a period of twenty-four (24) months. Administration of insurance benefits will be implemented at this time for Higher Education and the Board of Regents, Local Education, and Local Government
 - Phase 2: Financial Management, Budget Development, and Inventory functionality will be implemented for all agencies except the Department of Transportation (TDOT) after Phase 1 is completed, over a period of eighteen (18)

months. Procurement functionality, including eProcurement, will be implemented for all agencies during this phase, including TDOT

- Phase 3: All remaining functionality (Financial Management, Budget Development, and Inventory) will be implemented for TDOT over a period of eighteen (18) months. Fleet Management functionality will be implemented at TDOT and the Department of Safety during this phase
- ◆ Prior to the aforementioned phases (Years 1 through 5), the planning schedule contains a **Year 0** (fiscal year ending in 2004). During this time period, it is assumed that the State will move forward with procuring ERP software and associated implementation services (e.g., develop an RFP, develop a vendor evaluation process, develop vendor demonstration scripts, etc.), and will perform certain activities that will help the State prepare for implementing an ERP system, should the State decide to move forward with implementing ERP.
- ◆ A technical upgrade (i.e., no significant additional functionality will be implemented) will occur during Year 6 of the project
- ◆ The implementation work effort will be allocated as follows: 60% State resources and 40% contractor resources
- ◆ **The hours for State employees are treated as a separate category below (i.e., the assumptions only apply to contractors, unless otherwise indicated)**
- ◆ In some cases, the responses to the RFI did not permit an “apples-to-apples” comparison; in those cases, adjustments were made as deemed appropriate

Project Management

The number of FTEs proposed by the respondents to the RFI varied significantly. Below are the estimated Project Management hours provided by the respondents (note: the fee in the table below is not the amount proposed by the respondents; it was calculated using an assumed rate of \$230 per hour):

Respondent	Total Hours	Fee @ \$230/Hr. (\$ millions)
AMS	41,840	9.6
Lawson	52,200	12.0
Oracle	9,000	2.1
PeopleSoft	39,539	9.1
SAP	23,544	5.4
Avg. (excl. Oracle)	33,225	7.6

For this analysis, we are assuming 3.0 FTEs (27k hrs. or \$6.2MM @ \$230/hr.) will be required.

Independent Project Oversight

Year 0

As indicated above, during this time period, it is assumed that the State will move forward with procuring ERP software and associated implementation services (e.g., develop an RFP, develop a vendor evaluation process, develop vendor demonstration scripts, etc.), and will perform certain activities that will help the State prepare for implementing an ERP system, should the State decide to move forward with implementing ERP. Presented in the table below are tasks that could be performed during Year 0 and the possible consultant's role in performing each task:

Task Description	Description of Consultant's Role
Review current account coding block, document shortcomings and perform "clean-up" activities (i.e., clean-up object codes)	Facilitate discussion of existing coding block, documentation of coding block and its deficiencies, and management of "clean-up" activities
Validate original requirements developed for RFI for inclusion in RFP	Lead work sessions with each functional team to validate all system requirements for inclusion in the RFP.
Consolidation of TOPS and STARS vendor files	Function in a facilitation role and provide project management to ensure this task is completed as appropriate and on a timely basis.
Provide assistance in support of funding efforts	Support the State on legislative and funding issues on an "as needed" basis.
Development of evaluation process and evaluation guide	Facilitate development of an evaluation guide that will address the evaluation process to be followed, evaluation criteria, scoring system, and roles and responsibilities of evaluation committee members.
Development of Request for Proposal(s)	Facilitate development of the Request for Proposal(s) for acquiring ERP software and implementation services. The RFP will contain the key information necessary for vendors to prepare a comprehensive response including background, information regarding current environment, requirements, schedule of activities, terms and conditions, etc.
Development of demonstration evaluation scripts	Facilitate development of demonstration scripts that will be provided to the vendors so they can structure their software demonstrations.
GAAP / GASB 34 Accounting Class	The State should utilize the University or other resources that specialize in this field.
ERP / Change Management Training	Work with the State to develop and present an overview of ERP software, how it will impact the State's business processes and staff, and provide an initial discussion on organizational change management.
Data cleansing activities	Function in a facilitation role and provide project management to ensure this task is completed as appropriate and on a timely basis.
Development of existing reports inventory	Assist the State in developing the standards / format to be used in documenting existing reports. We could also function in a facilitation role and provide project management to ensure this task is completed as appropriate and on a timely basis.
Validation of interfaces	Leveraging prior work, could assist the State in developing the standards / templates to be used in documenting automated interfaces that will be required to/from the State's legacy administrative systems. Could function in a facilitation role and provide project management to ensure this task is completed as appropriate and on a timely basis.
Development of project risk assessment methodology and initial risk management plan	Work with the State to develop the risk assessment methodology and tools to be utilized for the project. Then, assist the State in preparing the first risk assessment and in developing the initial risk management plan to be used to mitigate risks.

The estimated number of hours required to perform each task was estimated by STA based upon STA's experience with similar efforts.

Years 1 – 5

It is assumed that three (3) FTEs would perform the oversight role throughout the five-year implementation period, at an average hourly rate of \$200 per hour.

Software Configuration and Process Reengineering

This cost category includes the contractor/consultant effort involved in:

- ◆ Reviewing the “As Is” process documentation developed during the ERP Automation Assessment Study
- ◆ Developing “To Be” processes in keeping with the processes embedded in the selected ERP software
- ◆ Configuring the ERP software in accordance with the defined “To Be” processes
- ◆ Performing configuration unit testing and assisting in integration, system, and stress testing

The total number of hours proposed by each of the RFI respondents for the implementation period follows:

Respondent	Total Hours	Fee @ \$230/Hr. (\$ millions)
AMS	45,390	10.4
Lawson	84,600	19.5
Oracle	93,600	21.5
PeopleSoft	89,896	20.7
SAP	111,296	25.6
Average	84,956	19.5

We believe it is likely that this activity would require between 85k and 100k hours, and have assumed 95k hours (\$21.9MM @ \$230/hr.) for the purpose of this analysis.

Workflow Configuration

This cost category includes defining the State’s workflow business rules and configuring the ERP system’s workflow functionality in accordance with those rules. Included are the hours necessary for analysis, design, construction, testing, and moving the technology into the production environment.

The data provided by the RFI respondents is presented in the table below:

Respondent	Total Hours	Fee @ \$230/Hr. (\$ millions)
AMS	50,163	11.5
Lawson	1,800	0.4
Oracle	-	-
PeopleSoft	5,668	1.3
SAP	4,296	1.0
Avg. (excl. Oracle)	15,482	3.6
Avg. (excl. AMS also)	3,921	0.9

We believe the total number of hours for Workflow Configuration will be within range of hours quoted by SAP and PeopleSoft; therefore, we are assuming this activity would require approximately 5k hours (\$1.2MM @ \$230/hr.).

Custom Development – Interface Development

This cost category includes the entire effort required to develop an interfaced/integrated environment which would include the ERP system, the State's legacy systems that remain, and the systems of entities external to the State. This effort includes analysis, design, construction, testing, and moving the interfaces into the production environment.

At the time the RFI was issued, not enough information had been gathered regarding the interface requirements for the "To Be" (i.e., ERP) environment, so the respondents to the RFI were not asked to estimate the effort required to implement these interfaces. The estimates we have developed for this analysis are based on the results of the Interface Model deliverable and interface estimating standards used by STA.

Interface Development Estimating Standards in Hours

				Simple	Average	Complex
Outbound from ERP (Leads to an Inbound to Legacy)	Outbound from ERP	ERP Actions	Extract from ERP (in established std. format)	40	80	160
			Transmit to legacy			
	Inbound to Legacy	Legacy Actions	Initiate a call transaction, perhaps	120	240	400
			Reformat ERP std. format to legacy requirements			
			Perform legacy edits			
			Post to legacy			

				Simple	Average	Complex
Inbound to ERP (Proceeded by an Outbound from Legacy)	Outbound from Legacy	Legacy Actions	Extract from legacy	40	80	160
			Reformat to ERP standard			
			Transmit to ERP			
	Inbound to ERP	ERP Actions	Initiate a call transaction, perhaps	80	160	320
			Perform ERP edits			
			Post to ERP			

Note: a Simple legacy outbound/inbound will not necessarily match-up with a Simple ERP inbound/outbound (e.g., a Simple ERP outbound extract could lead to a Complex legacy inbound) -- same for Average and Complex. Each component must be evaluated separately.

Definitions:

Inbound	Simple:	One file received and posted to one transaction via batch. Few screens/edits. Uses standard upload program.
	Average:	Few files received and posted to one or more transaction with more screens/edits and screen sequences than Simple. Multiple field/table translations. Uses a call function, perhaps.
	Complex	Several files received and posted to one or more transactions. Increased number of screens/edits. Multiple field/table translations. Synchronous communication, perhaps.
Outbound	Simple:	Extract created from one logical database. Few field/table translations.
	Average:	Extract created from several logical databases. Multiple field/table translations.
	Complex	Data extracted from a number of logical databases. Multiple field/table translations. Synchronous communication, perhaps.

Phase	Nubmer of Interfaces								Total Hours
	Inbound				Outbound				
	Simple	Average	Complex	Total	Simple	Average	Complex	Total	
HR/Payroll	6	3	-	9	33	1	-	34	8,640
Financial / Purchasing	8	35	-	43	50	12		62	21,680
TDOT	-	1	-	1	3	1	-	4	1,200

We are assuming State resources will perform approximately 60% of these hours and the contractor resources will perform approximately 40% of the hours.

Custom Development – Software Modification

This cost category includes all the effort necessary to develop modifications / enhancements to the ERP system in order for the ERP system to meet the State’s business requirements (i.e., analysis, design, construction, testing, and moving the modifications/enhancements into the production environment).

As evident by the data in the table below, RFI responses varied significantly for this cost category:

Respondent	Total Hours	Fee @ \$230/Hr. (\$ millions)
AMS	33,332	7.7
Lawson	8,478	1.9
Oracle	-	-
PeopleSoft	19,642	4.5
SAP	4,328	1.0
Avg. (excl. Oracle)	16,445	3.8

We were not able to get information regarding Software Modification costs from all the states we interviewed, but the State of Pennsylvania is running SAP, and they told us they spent \$3.1MM on software modifications/enhancements and the State of Missouri which is running AMS told us they spent \$2.8MM.

For this analysis, we have assumed the average amounts presented above (i.e., 16,445 hrs. or \$3.8MM @ \$230/hr.).

Custom Development – Report Development

This cost category includes all the effort necessary to develop the reports necessary for the ERP system to meet the State’s business requirements (i.e., analysis, design, construction, testing, and moving the reports into the production environment).

The responses to the RFI for this category are summarized in the table below:

Respondent	Total Hours	Fee @ \$230/Hr. (\$ millions)
AMS	10,585	2.4
Lawson	1,980	0.5
Oracle	-	-
PeopleSoft	18,508	4.3
SAP	7,256	1.7
Avg. (excl. Oracle)	9,582	2.2

The hours quoted by Lawson appear low. The average number of hours for AMS, PeopleSoft, and SAP is approximately 12k. For this analysis, we assume 12,000 contractor hours (\$2.8MM @ \$230/hr.) will be required for this activity.

Custom Development – Data Conversion / Loading

This cost category includes all the effort necessary to convert/load data into the ERP system (i.e., analysis, design, construction of the conversion/loading programs, testing, and getting the necessary data loaded into the production system). The manual data loading effort is also included in this category.

At the time the RFI was issued, not enough information had been gathered regarding the data conversion/loading requirements for the “To Be” (i.e., ERP) environment, so the respondents to the RFI were not asked to estimate the effort required to perform this activity. The estimates we have developed for this analysis are based on the results of the Interface Model deliverable for the ERP Automated Assessment Project and data conversion estimating standards used by STA.

Data Conversion / Loading Estimating Standards in Hours

				Simple	Average	Complex
Inbound to ERP (Proceeded by an Outbound from Legacy)	Outbound from Legacy	Legacy Actions	Extract from legacy	40	80	160
			Reformat to ERP standard			
			Transmit to ERP			
	Inbound to ERP	ERP Actions	Initiate a call transaction, perhaps	80	160	320
			Perform ERP edits			
			Post to ERP			

Note: a Simple legacy outbound/inbound will not necessarily match-up with a Simple ERP inbound/outbound (e.g., a Simple ERP outbound extract could lead to a Complex legacy inbound) -- same for Average and Complex. Each component must be evaluated separately.

Definitions:

Inbound	Simple:	One file received and posted to one transaction via batch. Few screens/edits. Uses standard upload program.
	Average:	Few files received and posted to one or more transaction with more screens/edits and screen sequences than Simple. Multiple field/table translations. Uses a call function, perhaps.
	Complex	Several files received and posted to one or more transactions. Increased number of screens/edits. Multiple field/table translations. Synchronous communication, perhaps.
Outbound	Simple:	Extract created from one logical database. Few field/table translations.
	Average:	Extract created from several logical databases. Multiple field/table translations.
	Complex	Data extracted from a number of logical databases. Multiple field/table translations.

Functional Area	# of Conversions by Complexity				Total Hours
	Simple	Average	Complex	Total	
HR/Payroll	5	4	6	15	4,440
Financial / Purchasing	9	13	3	25	5,640
Total	14	17	9	40	10,080

It is assumed that State resources will perform approximately 60% of these hours and the contractor resources will perform approximately 40% of the hours.

Organizational Change Management – Executive Support and Communication

This cost category includes the effort required to work to build executive sponsorship, and to create and manage communication regarding the initiative.

The respondents to the RFI did not consistently report hours and fees for Change Management. For example, SAP included Change Management figures in the Training category, and AMS indicated that they spread their Change Management figures over a number of areas with most of the hours going into Software Configuration and BPR. PeopleSoft estimated an average of approximately 1.5 FTEs over the five-year implementation period. We have assumed 2.0 FTEs (18k hrs. -- \$4.1MM @ \$230/hr.) over the five-year implementation period for this analysis.

Training and Documentation – Project Team Training

This cost category includes the expenditures necessary to train the project team. It is assumed that the State will pay for the project team to attend classes given by the ERP vendor rather than having the training delivered on a per-hour basis.

SAP was the only respondent that estimated project team training; their estimate was \$318,000. We believe that this estimate is low and have assumed \$600,000 for the purpose of this analysis.

Training and Documentation – End User Training and Documentation

This cost category contains the effort for contractors/consultants to develop end user training materials based on the “To Be” process designs, to train the State trainers to assist in delivering training to the end users, and to assist in delivering the training.

The table that follows contains the total hours each of the respondents to the RFI estimated for training end users and developing the associated training documentation:

Respondent	Total Hours	Fee @ \$230/Hr. (\$ millions)
AMS	40,304	9.3
Lawson	14,850	3.4
Oracle	-	-
PeopleSoft	37,220	8.6
SAP	35,110	8.1
Average	31,871	7.3

For the purpose of this analysis, we are assuming end user training and documentation development will require approximately 40k hours (\$9.2MM @ \$230/hr.).

We are also assuming that 40, or so, end users will need business training (e.g., Accounting 101). We are also assuming it will cost the State approximately \$1k to train each of these end users.

Infrastructure Development and Project Support

This cost category includes the cost of resources to:

- Install the ERP hardware
- Apply updates/patches to the ERP software during the implementation period
- Install the ERP software
- Control the movement of software configuration changes through the development environment and into the production environment
- Direct system stress (i.e., volume) testing
- Tune system performance
- Assist in developing procedures for ongoing system operations

PeopleSoft and Lawson were the only respondent to estimate technical infrastructure support. PeopleSoft estimated 33k hours (\$7.6MM @ \$230/hr.) over the five-year implementation period which equates to an average of approximately 3.7 FTEs. And Lawson estimated 3.0 FTEs each year for the first four years only (approximately 22k hrs.). For the purpose of this analysis, we are assuming an average of 3.0 FTEs for the entire five-year period (27k hrs.).

Post-Implementation Support

We are assuming the implementation contractor will stay on to provide post-implementation support six months after each phase goes live. The table below contains the headcount by role:

Contractor Role	Phase 1 HR/Payroll	Phase 2 FI/PUR	Phase 3 TDOT
FI/PUR Functional Consultant		5.0	3.0
HR/Payroll Functional Consultant	5.0		
Workflow & Report Development	1.0	1.0	1.0
Project Management	1.0	1.0	1.0
Technical Support	2.0	2.0	2.0
Change Management	1.0	1.0	1.0

FTEs	10.0	10.0	8.0
Hours for six months	9,000	9,000	7,200

State Employee Implementation Cost

Year 0

The number of State employee hours was estimated by STA based upon STA's experience with similar efforts.

Years 1 – 5

It is assumed that the implementation work effort will be allocated as follows: 60% State resources and 40% contractor resources. These resources would be involved in activities relating to all of the cost categories presented above, including deployment. We also assumed that only 60% of the State positions would be backfilled at an average hourly rate of \$38.89 (\$50k salary; 40% benefits; 1,800 hours per year). Backfilling will begin six months prior to the beginning of each project phase.

Application Software License and Software Maintenance Fee

The software license and maintenance estimates from the RFI respondents are presented in the table below:

Respondent	HR/P Software	FI/PUR Software	Total Software	Maintenance Fee
AMS	\$ 2,427,000	\$ 11,712,000	\$ 14,139,000	Estimated a flat 14%
Lawson	\$ 6,134,122	\$ 3,703,312	\$ 9,837,434	Started Year 1 at 18% and increased 6% each year thereafter
Oracle	\$ 3,522,000	\$ 3,811,455	\$ 7,333,455	Started Year 1 at 22% and increased 5% each year in Years 6-10
PeopleSoft			\$ 7,669,250	(1) Maintenance started in Year 1 at approximately 17% and increased 18% each year (2) Fleet Management software was not included
SAP	\$ 6,530,850	\$ 6,972,648	\$ 13,503,498	Only estimated initial year -- 17%
Average	\$ 4,653,493	\$ 6,549,854	\$ 10,496,527	

We believe that the \$10MM average estimate for the software is a reasonable, conservative estimate which we have used for this analysis. Also, we are estimating that the annual software maintenance fee will equal approximately 18% of the software license fee.

All Other (facilities, etc.)

We are basing the estimate for the project team facilities and infrastructure on the amount paid for the TennCare project which we understand to be approximately \$310k per annum.

Annual Operating Costs (data center)

It is difficult at this stage of the initiative to estimate with any precision the annual cost for this category. The estimate that is being used is based on the \$2.5MM/yr. amount the State of Pennsylvania pays for hardware (servers, operating system, network, switches, and firewalls, as well as hardware warranties). That \$2.5MM amount was adjusted pro rata for the State of Tennessee's smaller size in terms of number of employees ($\$2.5\text{MM} \times 48\text{k TN employees} / 83\text{k PA employees} = \1.4MM). It is assumed that during the HR/Payroll phase (Years 1 and 2), only 50% of the \$1.4MM amount will be incurred, then the full amount will be incurred once the FI/Purchasing phase begins (beginning in Year 3).

It is also assumed that new PCs will be needed in certain agencies. For the purpose of this analysis, it is assumed that 500 PCs will be required at an average price of \$600.00 each.

Ongoing Support / Operations – Help Desk / Functional Support

It is assumed that only State resources will fill the positions covered this cost category. In developing estimates for this (and all of the Ongoing Support / Operations sub-categories), we took into consideration the staffing levels of other states and STA's ERP experience. Also, the assumption was made that the best and brightest from the project implementation team would fill these Ongoing Support / Operations positions.

It is assumed that 16 FTEs will support the HR/Payroll functional area and 15 FTEs will support the Financial/Procurement areas. It is assumed that of these FTEs will all be State

resources. It is also assumed that 70% of these resources will be centralized and the remaining 30% will be housed in the business-unit agencies.

Ongoing Support / Operations – Technical Operations and Support

It is assumed that only State resources will fill the positions covered by this cost category.

This cost category includes all activities to support the technical environment (e.g., hardware operation and maintenance, the application of software patches/fixes, moving development items into the production environment, etc.) The category also includes resources necessary to support the system interfaces and modifications/enhancements.

We are assuming that 18 State FTEs will be required to provide ongoing technical operations and support.

Ongoing Support / Operations – Ongoing Training

We are assuming that three (3) FTEs will be assigned to HR/Payroll training once that functionality has gone live. Five (5) more full-time trainers will be added to handle the Financial/Procurement areas once that functionality has gone live. The training team will be supplemented at times by the ongoing functional and technical support personnel.

Upgrade in Year 6

In the table below are the upgrade hour estimates from the respondents to the RFI:

Respondent	Total Non-Upgrade Hours from Schedule	Upgrade Hours from Schedule	Upgrade Hrs. As a % of Non-Upgrade Hrs.
AMS	221,614	31,920	14.4%
Lawson	190,980	18,000	9.4%
Oracle	Did not quote hours for all cost categories	16,200	
PeopleSoft	286,665	31,104	10.9%
SAP	185,830	31,318	16.9%
Average	221,272	28,086	12.9%

For the purpose of our analysis, we are assuming the number of contractor hours that will be required for the upgrade will be 15% of the hours required for the initial implementation.

ERP Automation Assessment Study Estimated System Cost Summary

Agency			Agency Specific	Enhance Central System	Current/Planned	Cost Element		Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total Years 0 - 10
							FYE 2003	FYE 2004	FYE 2005	FYE 2006	FYE 2007	FYE 2008	FYE 2009	FYE 2010	FYE 2011	FYE 2012	FYE 2013	FYE 2014	
Financial/Purchasing Systems																			
1	Agricultural	F			Current	Agriculture	Attempting to obtain												-
2	AOC	F	AP		Current	AOC Court Report Tracking	8,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	11,000
3	AOC	F	PU		Current	AOC Purchase Plus	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	11,000
4	AOC	F	AP		Current	AOC Indigent Defense System	16,000	163,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	243,000
5	AOC	F	IN		Current	AOC TAMS	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	154,000
6	Children's Services	F	AM		Current	Computer Usage Survey													-
9	Children's Services	F	IN		Current	Expertise													-
10	Comptroller of the Treasury	F	AR		Planned	Accounting, Billing and Reporting	-	83,000	33,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	224,000
11	Comptroller of the Treasury	F			Planned	Debt Accounting System	38,000	250,000	510,000	83,000	16,000	16,000	160,000	16,000	16,000	16,000	16,000	16,000	1,115,000
12	Comptroller of the Treasury	F			Current	Accounts Receivable	Attempting to obtain												-
13	Comptroller of the Treasury	F			Current	Debt Management	Attempting to obtain												-
14	Comptroller of the Treasury	F			Current	Public Health and Loan	Attempting to obtain												-
15	Comptroller of the Treasury	F			Current	Contract Log	Attempting to obtain												-
16	Comptroller of the Treasury	F			Current	Micro Inventory	Attempting to obtain												-
17	Correction	F	AR/AP		Current	Trust Fund	51,000	61,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	91,000
18	Correction	F	PU		Current	E-Procurement	47,000	44,000	44,000	-	-	-	-	-	-	-	-	-	88,000
19	Correction	F	IN		Current	Perpetual Inventory	12,000	12,000	62,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	182,000
20	Education	F	IN		Current	SDE Inventory	50	50	50	50	50	50	50	50	50	50	50	50	550
21	Environment and Conservation	F			Current	Utility Bill Reporting	Attempting to obtain												-
22	F & A	F			Current	Cost Allocation	25,000	25,875	26,781	27,718	28,688	29,692	30,731	31,807	32,920	34,072	35,265	35,265	338,815
23	F & A	F			Current	LIS	15,000	300,000	100,000	50,000	51,750	53,561	55,436	57,376	59,384	61,463	63,614	63,614	916,198
24	F & A	F			Current	PITS/PRISMS	175,000	150,000	155,250	160,684	166,308	172,128	178,153	184,388	190,842	197,521	204,435	204,435	1,964,144
25	F & A	F			Current?	TRIPS		567,419	617,819	668,219	668,219	668,219	668,219	668,219	668,219	668,219	668,219	668,219	7,199,209
26	F & A	F			Current	Budget Status	2,500	750,000	750,000	750,000	175,000	181,125	187,464	194,026	200,817	207,845	215,120	215,120	3,826,516
27	F & A	F			Current	STARS	825,000	853,875	883,761	914,692	946,706	979,841	1,014,136	1,049,630	1,086,367	1,124,390	1,163,744	1,163,744	11,180,887
28	F & A	F			Current	1099	100,000	104,500	109,203	114,117	119,252	124,618	130,226	136,086	142,210	148,610	155,297	155,297	1,439,451
29	F & A	F			Current	FDA	700,000	731,500	771,733	814,178	858,958	906,200	956,041	1,008,624	1,064,098	1,122,623	1,184,367	1,184,367	10,602,689
30	F & A Budget	F			Current	Budget Systems	2,006,100	241,600	241,600	241,600	241,600	241,600	241,600	241,600	241,600	241,600	241,600	241,600	2,657,600
31	General Services	F	Inventory		Current	Bldg. Maint/work orders (IS staff, SW, HW, trav	213,483	213,483	213,483	213,483	213,483	213,483	213,483	213,483	213,483	213,483	213,483	213,483	2,348,313
32	GSC	F			Planned	New Purchasing (see TOPS below)	-	-	-	2,000,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	8,000,000
33	GSC	F			Current	PSM	138,000	153,110	26,000	26,000	26,000	95,000	26,000	26,000	26,000	26,000	95,000	95,000	620,110
34	GSC	F			Current	Central Stores Estimated Cost	177,000	84,000	84,000	84,000	84,000	99,000	84,000	84,000	84,000	84,000	84,000	84,000	939,000
35	GSC	F			Current	Fleet Tracker Estimated Cost	185,000	325,000	185,000	185,000	185,000	185,000	325,000	185,000	185,000	185,000	185,000	185,000	2,315,000
36	GSC	F			Current	POST estimated cost	431,500	431,500	431,500	431,500	431,500	431,500	431,500	431,500	431,500	431,500	431,500	431,500	4,746,500
37	GSC	F			Current	TOPS estimated cost	1,071,500	1,071,500	1,071,500	1,071,500	535,750								3,750,250
38	Health	F	Inventory		Planned	RecFind Maintenance (HW, SW, IS staff)	-	-	14,761	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050	69,211
39	Health	F	Budget, contract ad		Current	Contract Funding System (IS staff)	59,496	5,949	5,949	5,949	5,949	5,949	5,949	5,949	5,949	5,949	5,949	5,949	65,439
40	Health	F	Inven., purch., trainin		Current	Track-it maintenance (softw.+ IS staff)	7,358	7,358	7,358	7,358	7,358	7,358	7,358	7,358	7,358	7,358	7,358	7,358	80,938
41	Human Services	F	Bud		Current	RMS	3,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	44,000
42	Human Services	F	PU		Current	PROAPPS	10,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	176,000
43	Human Services	F	GL		Current	FATS	72,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	176,000
44	Human Services	F	contract tracking		Current	CATS	83,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	176,000
45	Human Services	F	helpdesk/inventory		Current	CARL	16,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	253,000
46	Military	F	Grant		Current	Internal tracking system	32,520	32,520	32,520	32,520	32,520	32,520	32,520	32,520	32,520	32,520	32,520	32,520	357,720
47	Sec of State	F	Leave accounting		Current	Leave Sys. to Reg'l. Libraries (staff, trng, com)	2,490	690	690	690	690	690	690	690	690	690	690	690	7,590
48	Sec of State	F			Current	ASK ABOUT INVENTORY													-
49	Transportation	F	ACCNT		Current	DOT STARS	650,000	650,000	650,000	675,000	675,000	675,000	700,000	700,000	700,000	720,000	720,000	720,000	7,585,000
50	Transportation	F	AP/IN/AM		Current	MMS	3,797,900	2,459,165	965,765	965,765	965,765	965,765	965,765	965,765	965,765	965,765	965,765	965,765	12,116,815
51	Transportation	F	PJ/BUD		Current	PPRM	2,855,810	1,193,925	1,193,925	1,193,925	1,193,925	1,193,925	1,193,925	1,193,925	1,193,925	1,193,925	1,193,925	1,193,925	13,133,175
52	Transportation	F	AP/PR/PR		Current	CMS TRANSPORT	3,388,090	2,632,649	3,101,653	3,798,665	2,522,242	2,345,776	2,345,776	2,345,776	2,345,776	2,345,776	2,345,776	2,345,776	28,475,641
53	Treasury	F	GL		Planned	TRACS													-
54	Treasury	F	CM		Planned	ARP	-	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	330,000
55	Treasury	F	BL		Current	Tracs/gl													-
56	Treasury	F	CM		Current	ACH	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	330,000
57	TRICOR	F			Current	Supplier Replacement	35,000	82,250	66,250	66,250	-	-	-	-	-	-	-	-	214,750
58	TWRA	F			Current	Fleet Expenditures Reallocation	1,860	1,860	2,860	1,860	1,860	2,860	1,860	1,860	2,860	1,860	1,860	1,860	23,460
59	TWRA	F			Current	Supplies Inventory	8,829	11,229	7,229	7,229	7,229	11,229	7,229	7,229	7,229	11,229	7,229	7,229	91,519
60	TWRA	F			Current	Budget System	16,600	16,600	16,600	17,600	17,600	16,600							

ERP Automation Assessment Study
Estimated System Cost Summary

	Agency		Agency Specific	Enhance Central System	Current/ Planned	Cost Element		Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total Years 0 - 10
							FYE 2003	FYE 2004	FYE 2005	FYE 2006	FYE 2007	FYE 2008	FYE 2009	FYE 2010	FYE 2011	FYE 2012	FYE 2013	FYE 2014	
73		F			Current	Estimated													-
74		F			Current	Estimated													-
75		F			Current	Estimated													-
76		F			Current	Estimated													-
77		F			Planned	Estimated	-	-	-	-	-	-	-	-	-	-	-	-	-
78		F			Planned	Estimated	-	-	-	-	-	-	-	-	-	-	-	-	-
75	FI Subtotal -- Estimated						-	2,400,000	2,650,000	5,065,613	5,065,613	5,065,613	5,065,613	5,065,613	5,065,613	5,065,613	5,065,613	5,065,613	50,640,514
76	FI Subtotal						17,500,806	16,441,327	15,374,958	20,047,934	16,364,784	15,845,073	16,168,094	15,994,844	16,109,545	16,254,431	16,441,748	16,441,748	181,484,488

ERP Automation Assessment Study Estimated System Cost Summary

Agency	Agency Specific	Enhance Central System	Current/Planned	Cost Element	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total Years 0 - 10
					FYE 2003	FYE 2004	FYE 2005	FYE 2006	FYE 2007	FYE 2008	FYE 2009	FYE 2010	FYE 2011	FYE 2012	FYE 2013	FYE 2014
HR/Payroll Systems																
AOC	H	Leave		Planned	AOC HRES	63,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	121,000
BOP					BOP NONE											-
Commerce and Ins					BOP NONE											-
Comptroller of the Treasury	H			Current	Personnell	Attempting to obtain										-
Comptroller of the Treasury	H			Current	Time and Attendance	Attempting to obtain										-
Correction	H	Personnel		BI 1999 01	Automated Time Management Pilot	45,000										45,000
District Public Defenders Conference					NONE											-
Economic and Community Development					NONE											-
Education	H	PY		Current	Offline Payroll	-	-	-	-	-	-	-	-	-	-	-
Environment and Conservation	H				HR Vacancy	Attempting to obtain										-
F & A	H			Current	Labor Distribution	30,000	31,050	32,137	33,262	34,426	35,631	36,878	38,168	39,504	40,887	406,578
F & A	H			Current	Data Capture	175,000	181,125	187,464	194,026	200,817	207,845	215,120	222,649	230,442	238,507	2,371,703
F & A	H			Current	Payroll	850,000	888,250	928,221	969,991	1,013,641	1,059,255	1,106,921	1,156,733	1,208,786	1,263,181	12,235,026
F & A	H			Current	TIS	2,500,000	2,612,500	2,730,063	2,852,915	2,981,297	3,115,000	3,253,000	3,395,000	3,541,000	3,691,000	33,000
Health	H	Personnel		DC12Q	BHLR Employee Tracking imprvmt(IS staff)	32,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	33,000
Health	H	Time reporting		DC12H	Labor Distribution System maint.(IS staff)	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	99,000
Health					NO REPORTED COSTS FOR AGENCY CURRENT OR PLANNED SYSTEMS											
Human Services	H	time reporting		Current	OT Report	3,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	44,000
LABOR					INVESTIGATE INVENTORY SYSTEMS											-
Personnell	H	Testing		Current	Testing	35,248	35,248	35,248	35,248	35,248	35,248	35,248	35,248	35,248	35,248	387,728
Personnell	H	Applic Distib		Current	TEAMS	36,419	36,419	36,419	46,519	36,419	36,419	46,519	36,419	36,419	46,519	430,909
Personnell	H	Imaging 222		Current	Imaging											-
Personnell	H	HR		Current	SEIS	419,194	419,194	419,194	419,194	419,194	419,194	419,194	419,194	419,194	419,194	4,611,134
Personnell				Current	Training	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	110,000
Personnell				Current	Applicant/Certification	269,787	269,787	269,787	269,787	269,787	269,787	269,787	269,787	269,787	269,787	2,967,657
Revenue	H	Training		DG121	Training Tracker(IS staff)	46,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	35,475
Revenue					NONE											-
Safety	H			Planned	HR Imaging	-	47,795	2,154	2,154	2,154	2,154	2,154	2,154	2,154	2,154	69,335
Safety	H			Planned	HR Mgt Sys	-	97,650	7,150	7,150	7,150	7,150	7,150	7,150	7,150	7,150	169,150
Safety	H			Planned	Learning Mgt Sys	-	98,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	198,000
TACIR					NONE											-
TBI					NONE											-
TENN REG AUTH					NONE											-
THDA					NONE											-
Tourist Development					NONE											-
Treasury	H	BN		Planned	FLEX	1,500	1,500	1,500	1,500	250,000	30,000	30,000	30,000	30,000	30,000	464,500
Treasury	H	BN		Current	FLEX	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	22,000
Treasury	H	Leave		Current	HRIS	7,015	7,015	7,015	7,015	7,015	7,015	7,015	7,015	7,015	7,015	77,167
Treasury	H			Current	CRIS/TCRS											-
TRICOR					INVESTGATE NUMBER OF SYSTEMS											-
TWRA	H			Current	Personnel Database	4,717	4,717	4,717	5,717	4,717	4,717	5,717	4,717	4,717	5,717	55,887
TWRA	H			Current	SEIS payroll	27,558	28,558	27,558	27,558	28,558	27,558	28,558	27,558	27,558	27,558	306,138
TWRA	H			Current	SEIS enhancements	42,623	42,623	43,623	43,623	43,623	43,623	43,623	43,623	427,223	43,623	862,453
HR/Payroll Subtotal -- from Survey						4,564,286	4,888,656	4,784,475	4,967,884	5,385,270	3,238,821	3,339,109	3,424,865	3,523,539	4,018,888	45,037,453
Amounts Estimated for Agencies																
HR/Payroll Systems	H			Planned	Estimated											-
Other	H				Estimated											-
Other	H				Estimated											-
Other	H				Estimated											-
Other	H				Estimated											-
Other	H				Estimated											-
Other	H				Estimated											-
Other	H				Estimated											-
Other	H				Estimated											-
HR/Payroll Subtotal -- Estimated						-	-	-	-	-	-	-	-	-	-	-
HR/Payroll Subtotal						4,564,286	4,888,656	4,784,475	4,967,884	5,385,270	3,238,821	3,339,109	3,424,865	3,523,539	4,018,888	45,037,453
Grand Total						22,065,092	21,329,983	20,159,433	25,015,818	21,750,054	19,083,894	19,507,203	19,419,709	19,633,084	20,273,319	226,521,941

State of Tennessee
ERP Automation Assessment Project
Value Pocket Summary

Functional Area / Value Pocket	FTEs	Annual Compensation	Potential Savings Factor	Annual Savings		Annual Savings	
				FTEs	\$	TDOT Phase	All Other
Training							
Reduce amount of time spent maintaining employee training info. (employee maintains own info.)	9.14	\$ 432,610	50%	4.6	\$ 216,305	\$ -	\$ 216,305
Reduce the amount of time spent processing employee notifications - various training actions required employee notifications	8.66	\$ 366,143	90%	7.8	\$ 329,528	\$ -	\$ 329,528
Increased utilization of training classes (reduced number of classes)	Value Pocket considered but not pursued						
Personnel Administration							
Reduce amount of time spent maintaining employees' personnel info. (employee maintains own information)	15.00	641,236.09	40%	6.0	\$ 256,494	\$ -	\$ 256,494
Reduce amount of time spent monitoring licenses and certifications	1.25	73,690.39	30%	0.4	\$ 22,107	\$ -	\$ 22,107
Reduce amount of time spent verifying employment	2.14	106,157.20	80%	1.7	\$ 84,926	\$ -	\$ 84,926
Reduce amount of time spent processing employee notifications -- various personnel actions required employee notifications. (personnel data changes, personnel actions, etc.)	7.05	293,008.05	90%	6.3	\$ 263,707	\$ -	\$ 263,707
Benefits Administration							
Reduce amount of time spent maintaining employee benefit info. (ability for employee to maintain own information)	13.77	535,995.28	75%	10.3	\$ 401,996	\$ -	\$ 401,996
* Collect additional COBRA administrative fees							
Reduce amount of time spent processing participant notifications (e.g., notices of annual enrollment periods, explanation of coverage, requests for documentation, confirmation of coverage changes, upcoming changes in eligibility)	2.50	89,724.53	90%	2.3	\$ 80,752	\$ -	\$ 80,752
Leave Accounting							
Reduce the amount Of time spent on FMLA monitoring and notification	5.37	207,849.76	50%	2.7	\$ 103,925	\$ -	\$ 103,925
Reduce the amount of time spent on retroactively applying leave adjustments	5.50	188,739.24	80%	4.4	\$ 150,991	\$ -	\$ 150,991
Reduce the amount of time spent on processing and tracking sick leave bank requests	3.30	147,873.10	50%	1.7	\$ 73,937	\$ -	\$ 73,937
Timekeeping							
Reduce the amount of time spent making off-cycle adjustments	3.65	134,613.51	80%	2.9	\$ 107,691	\$ -	\$ 107,691

State of Tennessee
ERP Automation Assessment Project
Value Pocket Summary

Functional Area / Value Pocket	FTEs	Annual Compensation	Potential Savings Factor	Annual Savings		Annual Savings	
				FTEs	\$	TDOT Phase	All Other
Reduce the amount of time spent on employee time entry (fewer data-entry errors, automatic prior-period adjustments, workflow routing for approvals, etc.)	161.42	6,811,468.99	30%	48.4	\$ 2,043,441	\$ -	\$2,043,441

Payroll							
Reduce the amount of time spent processing retroactive pay changes (individual and mass retroactive adjustments)	6.95	257,736.83	50%	3.5	\$ 128,868	\$ -	\$ 128,868
Reduce the amount of time spent processing garnishments and liens	4.21	134,043.67	70%	2.9	\$ 93,831	\$ -	\$ 93,831
Reduce the amount of time spent processing other supplemental pay types (now calculated and entered manually)	7.99	274,995.84	50%	4.0	\$ 137,498	\$ -	\$ 137,498
Reduce amount of postage expense generated by mailing remittance advices to employees	Value Pocket considered but not pursued						
Reduce the amount of time spent processing online checks that are produced between pay cycles	1.43	50,913.66	70%	1.0	\$ 35,640	\$ -	\$ 35,640

Applicant Services							
Reduce amount of time spent processing applications and applicant inquiries	5.05	286,620.38	50%	2.5	\$ 143,310	\$ -	\$ 143,310
Reduce the amount of time spent notifying applicants of interviews, results, etc.	36.73	1,162,281.86	70%	25.7	\$ 813,597	\$ -	\$ 813,597

General Ledger							
Reduce amount of time spent performing year-end close	13.52	634,022.16	30%	4.1	\$ 190,207	\$ 1,176	\$ 189,031

Budget Development							
Reduce amt. of time spent developing and maintaining budget chart of accounts	1.83	93,521.03	50%	0.9	\$ 46,761	\$ 483	\$ 46,278
Reduce time to administer a distributed budget process	1.86	118,760.90	50%	0.9	\$ 59,380	\$ 9,962	\$ 49,418

Accounts Payable							
* Increase utilization of vendor discounts							
* Reduce amount of time spent processing non-TOPS invoices, including matching							
Decrease the amount. of time required to maintain vendor file	6.88	210,388.35	50%	3.4	\$ 105,194	\$ -	\$ 105,194
Reduce amt. of time spent handling vendor inquiries regarding payment status (vendors can inquire into status online)	20.73	726,168	60%	12.4	\$ 435,701	\$ 19,917	\$ 415,784
* Reduce number of vendor remittances mailed to vendors							

State of Tennessee
ERP Automation Assessment Project
Value Pocket Summary

Functional Area / Value Pocket	FTEs	Annual Compensation	Potential Savings Factor	Annual Savings		Annual Savings	
				FTEs	\$	TDOT Phase	All Other
Reduce amount of time spent on 1099 reporting	1.77	74,281	50%	0.9	\$ 37,140	\$ -	\$ 37,140

Accounts Receivable							
Reduce amt. of time spent on customer billing (any billing associated with a customer is performed manually or through an off-line system. Billing integrated with Accounts Receivable would enhance revenue and reduce time to bill and maintenance of off-line systems)	15.84	605,578.77	40%	6.3	\$ 242,232	\$ 1,411	\$ 240,820
* Better management of receivable balances							
* Automated application of late charges							
* Reduction of bad debts							

Cost Allocation / Labor Distribution							
Reduce the amount of time spend on labor distribution (Labor Distribution base on Random Moment time studies are currently performed manually)	Value Pocket considered but not pursued						

Project/Grant Accounting							
Grant draws are manually requested.							
* Automatically creating grant draw-downs could increase cash flow.							

Inventory							
* Reduce inventory carrying costs							
Reduce the amt of time spent on inventory reorders (ERP system will automatically reorder)	32.56	1,093,894.36	30%	9.8	\$ 328,168	\$ 117,728	\$ 210,440

Purchasing							
* Reduce cost of goods and services							
Reduce the amount of time spent processing manually-generated (paper) POs							
* Revenue from fees charged to vendors for eProcurement							
Reduce the amount of time spent processing formal solicitations	7.60	301,739.59	15%	1.1	\$ 45,261	\$ -	\$ 45,261
Reduce the amount of time spent processing informal solicitations	24.47	1,525,863.79	15%	3.7	\$ 228,880	\$ -	\$ 228,880

Fleet							
Reduce the amount Of time spent managing a fleet.	13.54	518,401.22	15%	2.0	\$ 77,760	\$ 41,429	\$ 36,332

FTEs	Compensation	FTEs	Potential Savings	
442	18,098,319	185	\$ 7,285,228	\$ 192,106
		41.8%		2.6%
				97.4%

* Indicates Value Pocket savings calculation not FTE-based -- calculation on another sheet

State of Tennessee
ERP Automation Assessment Project
Value Pocket Summary

Functional Area / Value Pocket	Savings Calculation					TDOT Phase	All Other
Benefits Administration							
Collect additional COBRA administrative fees	Avg. # COBRA Participants	Avg. Monthly COBRA Premium	Annual COBRA Premiums	% of Fee State Can Keep	Annual Savings	Annual Savings	Annual Savings
	850	\$ 360	\$ 3,672,000	2.0%	\$ 73,440	\$ -	\$ 73,440

Accounts Payable							
Increase utilization of vendor discounts	Annual Expenditure	% Discounts Not Taken	% Discount				
	Value Pocket considered but not pursued						
Reduce amount of time spent processing non-TOPS invoices, including matching	Invoices per Year	Savings per Invoice					
	72,000	\$20			\$ 1,440,000		\$ 1,440,000
Reduce number of vendor remittances mailed to vendors (include labor)	Avg # Direct Deposits	Cost to Mail	Annual Remittance Mail Cost	% of Reduction	Annual Savings		
	319,235	\$ 0.50	\$ 1,915,410	90.0%	\$ 1,723,869	\$ -	\$ 1,723,869

Accounts Receivable							
Better management of receivable balances	Annual Compensation	% Red in Work			Annual Savings		
	605,579	10%			\$ 60,558	\$ 353	\$ 60,205
Automated application of late charges	\$ Amount of AR	% Bad Debts	Late Charge %		Annual Savings		
	26,172,092	2.49%	5%		\$ 32,584	\$ 1,392	\$ 31,192
Reduction of bad debts	\$ Amount of AR	% Bad Debts	% Reduction		One Time Savings		
	\$ 26,172,092	2.49%	10%		65,168.51	\$ 2,784	\$ 62,385

Project/Grant Accounting							
Grant draws are manually requested. Automatically creating grant draw-downs could increase cash flow.	N/A	N/A	N/A	N/A	N/A		
	Value Pocket considered but not pursued						

Inventory							
Reduce inventory carrying cost	Inventory Balance	% Balance Reduction	\$ Balance Reduction	Interest Carry	Annual Savings		
	33,532,054	10%	3,353,205	7.5%	251,490	\$ 45,000	\$ 206,490

Purchasing							
Reduce cost of goods and services							
	Value Pocket considered but not pursued						
Reduce the amount of time spent processing manually-generated (paper) POs	Prepared Manually Each	\$ Savings per PO			Annual Savings		
	22,000	\$ 30.00			660,000	\$ 660,000	\$ -
Revenue from fees charged to vendors for eProcurement							

State of Tennessee
ERP Automation Assessment Project
Value Pocket Summary

Functional Area / Value Pocket	Savings Calculation			TDOT Phase	All Other
	Value Pocket considered but not pursued				
Potential Annual Savings				4,307,110	709,529
					3,597,582
					16%
					84%

State of Tennessee

ERP Automation Assessment Project

Draft -- 4/9/2003

Financial Summary																	
	Phases -->	Acquire.	HR/Payroll			Fin/Purch.	TDOT		Upgrade								
	CBA Component	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Year 11	Year 12	Total	
1	ERP Implementation	1,931,278	19,472,623	17,863,504	31,170,203	27,109,303	19,485,861	21,843,278	7,235,783	7,235,783	7,235,783	7,235,783	167,819,183	7,235,783	7,235,783	182,290,749	
2																	
3	Existing System Cost -- HR/Payroll				3,528,724	3,178,517	3,278,805	3,364,561	3,463,235	3,958,584	3,672,669	3,672,669	28,117,764	3,672,669	3,672,669	35,463,103	
4	Avoided System Cost -- HR/Payroll (planned)	255,945	31,804	31,804	280,304	60,304	60,304	60,304	60,304	60,304	60,304	60,304	1,021,985	60,304	60,304	1,142,593	
5	Existing System Cost -- Financials/Procurement						14,241,825	12,209,842	9,421,810	9,546,696	9,734,013	9,734,013	64,888,200	9,734,013	9,734,013	84,356,227	
6	Avoided System Cost -- Financials/Procurement (planned)	930,419	1,205,580	2,799,269	1,482,269	1,482,269	1,626,269	1,482,269	1,482,269	1,482,269	1,482,269	1,482,269	16,937,420	1,482,269	1,482,269	19,901,958	
7	Existing System Cost -- TDOT							2,302,733	5,205,466	5,225,466	5,225,466	5,225,466	23,184,597	5,225,466	5,225,466	33,635,529	
8	Avoided System Cost -- TDOT (planned)												-	-	-	-	
9	Total System Cost	1,186,364	1,237,384	2,831,073	5,291,297	4,721,090	19,207,203	19,419,709	19,633,084	20,273,319	20,174,722	20,174,722	134,149,966	20,174,722	20,174,722	174,499,410	
10																	
11	Value Pocket Benefits/Savings -- HR/Payroll				1,390,496	2,780,992	4,171,488	4,171,488	4,171,488	4,171,488	4,171,488	4,171,488	29,200,419	4,171,488	4,171,488	37,543,396	
12	Value Pocket Benefits/Savings -- Financials/Procurement					641,090	1,282,180	2,564,359	3,846,539	3,846,539	3,846,539	3,846,539	19,873,785	3,846,539	3,846,539	27,566,863	
13	Value Pocket Benefits/Savings -- TDOT Phase							225,409	450,817	676,226	676,226	676,226	2,704,904	676,226	676,226	4,057,356	
14	Total Value Pocket Benefits/Savings	-	-	-	1,390,496	3,422,082	5,453,668	6,961,257	8,468,845	8,694,253	8,694,253	8,694,253	51,779,108	8,694,253	8,694,253	69,167,615	
15																	
16	Net Benefit	(744,914)	(18,235,239)	(15,032,431)	(24,488,410)	(18,966,132)	5,175,010	4,537,688	20,866,146	21,731,790	21,633,192	21,633,192	18,109,892	21,633,192	21,633,192	61,376,276	
17																	
18	Cumulative Net Benefit (breakeven)	(744,914)	(18,980,152)	(34,012,584)	(58,500,993)	(77,467,125)	(72,292,115)	(67,754,428)	(46,888,281)	(25,156,492)	(3,523,300)	18,109,892		39,743,084	61,376,276		
19																	
20	Internal Rate of Return (IRR)											3.8%		7.0%	9.3%		
21																	
22	Risk Adjustment -- ERP Implementation	(1,931,278)	(19,472,623)	(17,863,504)	(31,170,203)	(27,109,303)	(19,485,861)	(21,843,278)	(7,235,783)	(7,235,783)	(7,235,783)	(7,235,783)	(167,819,183)	(7,235,783)	(7,235,783)	(182,290,749)	
23	Risk Adjustment -- System cost	1,186,364	1,237,384	2,831,073	5,291,297	4,721,090	19,207,203	19,419,709	19,633,084	20,273,319	20,174,722	20,174,722	134,149,966	20,174,722	20,174,722	174,499,410	
24	Risk Adjustment -- Value Pocket Benefits/Savings	-	-	-	1,390,496	3,422,082	5,453,668	6,961,257	8,468,845	8,694,253	8,694,253	8,694,253	51,779,108	8,694,253	8,694,253	69,167,615	
25																	
26	Risk-Adjusted Net Benefit	(744,914)	(18,235,239)	(15,032,431)	(24,488,410)	(18,966,132)	5,175,010	4,537,688	20,866,146	21,731,790	21,633,192	21,633,192	18,109,892	21,633,192	21,633,192	61,376,276	
27																	
28	Cumulative Net Benefit (Risk Adjusted)	(744,914)	(18,980,152)	(34,012,584)	(58,500,993)	(77,467,125)	(72,292,115)	(67,754,428)	(46,888,281)	(25,156,492)	(3,523,300)	18,109,892		39,743,084	61,376,276		
29																	
30	Internal Rate of Return (IRR)											3.8%		7.0%	9.3%		
31																	

Summary of Cost Benefit Analysis

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Project Name:				Project Number:				Project Phase:				
2	Statewide ERP												
3													
4	Agency:				Date Last Revised:				Year 1 of Project (Fiscal Yr):				
5											2004		
6													
7	Executive Summary												
8													
9	Cost/Benefit Summary	Total New Dollars for All Years		Total New & Existing Dollars for All Years		Initial Cost Confidence Factor							
10	Initial Cost:	97,522,640		106,836,637		1.00							
11	Operational Costs:	70,296,543		71,387,442									
12	Hard Dollar Benefits:	167,969,669		167,969,669									
13	Net Cost (costs minus benefits):	(150,486)		10,254,410									
14	Year of Payback:	0											
15													
16	Funding Summary	Total All Years (New)		Total All Years (New & Existing)				SDF Principal Payback			Total All Years		
17	(SDF-A) Application Development	0		0				Total SDF Funds Borrowed:			0		
18	(SDF-H) Hardware	0		0				SDF Payback Funding Sources:					
19	(ERF) Equipment Replacement Fund	0		0				(SI) State Improvement--One Time			0		
20	(SI) State Improvement--One Time	0		0				(SI) State Improvement--Recurring			0		
21	(SI) State Improvement--Recurring	0		0				(SC) State Continuance			0		
22	(SC) State Continuance	0		0				(F) Federal			0		
23	(F) Federal	0		0				(O) Other			0		
24	(O) Other	0		0				(O) Other			0		
25	(O) Other	0						Total SDF Payback Funding:			0		
26	Total Funding:	0		0				Unfunded SDF Payback:			0		
27	Unfunded Cost:	86,032,093		96,436,989									
28													
29													
30	Total Initial Dollars spent through 3/31/02	0		0									
31	Total Initial Dollars projected to be spent through 6/30/02												
32	Total Initial Dollars yet to be spent:	97,522,640		106,836,637									
33													
34	CBA Approval Dates			Last Approved by Sponsor:									
35				Last Approved by Agency Budget / Fiscal Office:									
36				Last Approved by MAC:									
37													
38	Total Project Cost (Including New and Existing Dollars)	Total all Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
39	Total Initial Costs	106,836,637	2,658,796	19,233,657	18,355,806	27,731,872	23,164,239	13,306,267	2,386,000	0	0	0	0

Summary of Cost Benefit Analysis

	A	B	C	D	E	F	G	H	I	J	K	L	M
40	Initiation / Planning (Analysis)	106,836,638	2,658,796	19,233,657	18,355,806	27,731,872	23,164,239	13,306,267	2,386,000	0	0	0	0
41	Design / Construction	0	0	0	0	0	0	0	0	0	0	0	0
42	Implementation	0	0	0	0	0	0	0	0	0	0	0	0
43	Total Operational Costs	71,387,442	0	1,532,892	1,532,892	5,205,783	6,220,783	7,235,783	20,716,177	7,235,783	7,235,783	7,235,783	7,235,783
44													
45	New Dollar Costs Only	Total all Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
46	Total Initial Costs	97,522,640	1,931,278	18,089,731	16,180,613	25,969,420	20,888,520	12,245,078	2,218,000	0	0	0	0
47	Initiation / Planning (Analysis)	97,522,640	1,931,278	18,089,731	16,180,613	25,969,420	20,888,520	12,245,078	2,218,000	0	0	0	0
48	Design / Construction	0	0	0	0	0	0	0	0	0	0	0	0
49	Implementation	0	0	0	0	0	0	0	0	0	0	0	0
50	Total Operational Costs	70,296,543	0	1,532,892	1,532,892	5,205,783	6,220,783	7,235,783	19,625,278	7,235,783	7,235,783	7,235,783	7,235,783
51													
52	Financial Benefit Summary	Total all Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
53	Increased Revenue - One Time	0	0	0	0	0	0	0	0	0	0	0	0
54	Increased Revenue - Annual	0	0	0	0	0	0	0	0	0	0	0	0
55	Decreased Cost - One Time	0	0	0	0	0	0	0	0	0	0	0	0
56	Decreased Cost - Annual	167,969,670	0	0	0	4,919,220	6,600,599	22,974,298	24,838,392	26,559,356	27,425,000	27,326,402	27,326,402
57	Total Benefits	167,969,669	0	0	0	4,919,220	6,600,599	22,974,298	24,838,392	26,559,356	27,425,000	27,326,402	27,326,402
58													
59	Cumulative New Cost / Benefit Calculation		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
60	Cumulative Initial Costs		1,931,278	20,021,009	36,201,622	62,171,042	83,059,562	95,304,640	97,522,640	97,522,640	97,522,640	97,522,640	97,522,640
61	Cumulative Operational Costs		0	1,532,892	3,065,784	8,271,567	14,492,350	21,728,133	41,353,411	48,589,194	55,824,977	63,060,760	70,296,543
62	Cumulative Benefits		0	0	0	4,919,220	11,519,819	34,494,117	59,332,509	85,891,865	113,316,865	140,643,267	167,969,669
63	Cumulative cost minus benefits		1,931,278	21,553,901	39,267,406	65,523,389	86,032,093	82,538,656	79,543,542	60,219,969	40,030,752	19,940,133	(150,486)
64													
65													
66	Year of Payback												
67													
68													
69													
70	Soft Dollar Financial Benefits	Total all Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
71		0	0	0	0	0	0	0	0	0	0	0	0
72													
73	Funding By Fiscal Year	Total All Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
74	Net New Costs to be Funded:	86,032,093	1,931,278	19,622,623	17,713,505	26,255,983	20,508,704	0	0	0	0	0	0
75	Funding Sources:												
76	(SDF-A) Application Development	0											
77	(SDF-H) Hardware	0											
78	(ERF) Equipment Replacement Fund	0											
79	(SI) State Improvement--One Time	0											
80	(SI) State Improvement--Recurring	0											
81	(SC) State Continuance	0											
82	(F) Federal -- Specify with comment	0											
83	(O) Other -- Specify with comment	0											
84	(O) Other -- Specify with comment	0											

Summary of Cost Benefit Analysis

	A	B	C	D	E	F	G	H	I	J	K	L	M
85	Total New Funding:	0	0	0	0	0	0	0	0	0	0	0	0
86	Unfunded Cost:	86,032,093	1,931,278	19,622,623	17,713,505	26,255,983	20,508,704	0	0	0	0	0	0
87													
88	Funding of Existing Costs:	10,404,896	727,518	1,143,926	2,175,193	1,762,452	2,275,719	1,061,189	1,258,899	0	0	0	0
89	(SC) State Continuanace	0											
90	(F) Federal -- Specify with comment	0											
91	(O) Other -- Specify with comment	0											
92	Total Existing Funding:	0	0	0	0	0	0	0	0	0	0	0	0
93	Funding not specified:	10,404,896	727,518	1,143,926	2,175,193	1,762,452	2,275,719	1,061,189	1,258,899	0	0	0	0
94													
95	SDF Payback by Fiscal Year	Total All Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
96	SDF-A Funds Borrowed	0	0	0	0	0	0	0	0	0	0	0	0
97	SDF-H Funds Borrowed	0	0	0	0	0	0	0	0	0	0	0	0
98	ERF Funds Borrowed	0	0	0	0	0	0	0	0	0	0	0	0
99	Total SDF Funds Borrowed:	0	0	0	0	0	0	0	0	0	0	0	0
100													
101	SDF Principal Payback Funding Sources:	Total All Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
102	(SI) State Improvement--One Time	0											
103	(SI) State Improvement--Recurring	0											
104	(SC) State Continuanace	0											
105	(F) Federal -- Specify with comment	0											
106	(O) Other -- Specify with comment	0											
107	(O) Other -- Specify with comment	0											
108	Total Principal Payback Funding:	0	0	0	0	0	0	0	0	0	0	0	0
109	Unfunded SDF Principal Payback:	0											
110													
111	Funding and SDF Payback Comments:												
112													
113													
114													
115													

Initial Cost Assessment

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Cost Category	Description	Cost Center/ Funding Source	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Existing Cost
2				2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
3	Confidence Factor:	1.00													
4															
5	Personnel														
6	OIR staff														no
7	Other consulting staff														no
8	Project Management			0	1,242,000	1,242,000	1,242,000	1,242,000	1,242,000	0	0	0	0	0	no
9	Independent Project Oversight			840,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	0	0	0	0	0	no
10	Sftwr. Config. & Process Reengineering			0	4,140,000	4,140,000	5,750,000	4,600,000	3,220,000	0	0	0	0	0	no
11	Workflow Configuration			0	241,500	283,935	306,650	227,148	90,859	0	0	0	0	0	no
12	Interface Development			0	158,976	635,904	199,456	1,795,104	110,400	0	0	0	0	0	no
13	Software Modifications			0	756,470	643,000	1,512,940	491,706	378,235	0	0	0	0	0	no
14	Report Development			0	469,200	607,200	966,000	469,200	248,400	0	0	0	0	0	no
15	Data Conversion / Loading			0	81,696	326,784	81,696	326,784	110,400	0	0	0	0	0	no
16	Organizational Change Management			0	414,000	828,000	828,000	828,000	828,000	0	0	0	0	0	no
17	Project Team Training			0	300,000	0	200,000	100,000	0	0	0	0	0	0	no
18	End User Training			0	1,288,000	1,579,000	1,932,000	2,693,000	1,748,000	0	0	0	0	0	no
19	Infrastructure Dev. & Project Support			0	1,242,000	1,242,000	1,242,000	1,242,000	1,242,000	0	0	0	0	0	no
20	Post-Implementation Support			0	0	0	2,070,000	2,070,000	0	1,656,000	0	0	0	0	no
21	Backfill State Staff		13,970,998	1,091,278	1,715,889	3,262,790	2,643,678	3,413,579	1,591,784	252,000	0	0	0	0	no
22	Existing State Staff		9,313,999	727,519	1,143,926	2,175,194	1,762,452	2,275,719	1,061,189	168,000	0	0	0	0	yes
23															
24	Software														
25	Purchase of application software	10,000,000		0	4,500,000	0	5,500,000	0	0	0	0	0	0	0	no
26	Purchase of system software														no
27															
28	Hardware														
29	Micro-computers		300,000		150,000		105,000		45,000						no
30	Notebooks														no
31	Desktops (including Servers)		0												no
32	Printers														no
33	Peripherals either for new work stations or to attach to existing work stations														no
34	Mid-range computers														no
35															
36	Hardware Installation														
37	Desktop														no
38	Server														no
39															
40	Security														no
41															no
42	Communications														no
43	Cabling														no
44															no
45	Data Conversion	Included above in Personnel section													no
46															no
47	Documentation	Included above in Personnel section													no
48															no

Initial Cost Assessment

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Cost Category	Description	Cost Center/ Funding Source	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Existing Cost
2				2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
49	Training	Included above in Personnel section													no
50	IS staff														no
51	Business Unit staff														no
52															no
53	Facilities														no
54	Additional Space			0	310,000	310,000	310,000	310,000	310,000	310,000	0	0	0	0	no
55	Work area														no
56	Furniture														no
57	Ergonomic Studies														no
58	Renovation of existing space														no
59															
60		Grand Total All Years		Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	Initiation / Planning	
61				2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
62	Without Confidence Factor Applied:														
63	Total Initial Cost (Including New and Existing Dollars)	106,836,638		2,658,796	19,233,657	18,355,806	27,731,872	23,164,239	13,306,267	2,386,000	0	0	0	0	
64	Total Initial New Dollar Costs	97,522,640		1,931,278	18,089,731	16,180,613	25,969,420	20,888,520	12,245,078	2,218,000	0	0	0	0	
65	With Confidence Factor Applied:														
66	Total Initial Cost (Including New and Existing Dollars)	106,836,638		2,658,796	19,233,657	18,355,806	27,731,872	23,164,239	13,306,267	2,386,000	0	0	0	0	
67	Total Initial New Dollar Costs	97,522,640		1,931,278	18,089,731	16,180,613	25,969,420	20,888,520	12,245,078	2,218,000	0	0	0	0	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Cost Category	Description	Cost Center/ Funding Source	2004	Existing Costs	2005	Existing Costs	2006	Existing Costs	2007	Existing Costs	2008	Existing Costs	2009	Existing Costs	2010	Existing Costs
2	Personnel																
3	OIR Staff				no		no		no		no		no		no		no
4	Other Consulting Staff		0		no		no		no		no		no		no		no
5	System Upgrade		10,753,146		no		no		no		no		no		no	10,753,146	no
6	State Staff		0		no		no		no		no		no		no		no
7	System Upgrade -- existing staff		1,090,899		no		no		no		no		no		no	1,090,899	yes
8	System Upgrade -- new staff		1,636,348		no		no		no		no		no		no	1,636,348	no
9	Ongoing Support		0		no		no		no		no		no		no		no
10	Help Desk / Functional Support (central)		11,049,500	0	no	0	no	0	no	784,000	no	1,151,500	no	1,519,000	no	1,519,000	no
11	Help Desk / Functional Support (in agencies)		4,735,500	0	no	0	no	0	no	336,000	no	493,500	no	651,000	no	651,000	no
12	Technical Operations & Support		9,135,000	0	no	0	no	0	no	630,000	no	945,000	no	1,260,000	no	1,260,000	no
13	Ongoing Training		3,955,000	0	no	0	no	0	no	210,000	no	385,000	no	560,000	no	560,000	no
14	Other		0	0	no	0	no	0	no	0	no	0	no	0	no	0	no
15					no		no		no		no		no		no		no
16	Software				no		no		no		no		no		no		no
17	Application Software Lease or License Fees		16,020,000	0	no	810,000	no	810,000	no	1,800,000	no	1,800,000	no	1,800,000	no	1,800,000	no
18	Application Software Maintenance or Upgrades				no		no		no		no		no		no		no
19	DBMS Software Lease or License Fees				no		no		no		no		no		no		no
20	DBMS Software Maintenance or Upgrades				no		no		no		no		no		no		no
21	System Software Lease or License Fees				no		no		no		no		no		no		no
22	Systems Software Maintenance or Upgrades				no		no		no		no		no		no		no
23					no		no		no		no		no		no		no
24	Training and Travel	Included in Personnel			no		no		no		no		no		no		no
25	IS Staff				no		no		no		no		no		no		no
26	Business Unit Staff				no		no		no		no		no		no		no
27	Consulting Staff				no		no		no		no		no		no		no
28					no		no		no		no		no		no		no
29	On-going Operations				no		no		no		no		no		no		no
30	Telecommunications & Network Services				no		no		no		no		no		no		no
31	Mainframe or OIR Shared Server Costs			0	no	722,892	no	722,892	no	1,445,783	no	1,445,783	no	1,445,783	no	1,445,783	no
32	Data Conversion				no		no		no		no		no		no		no
33	Contracted Services				no		no		no		no		no		no		no
34	Equipment Maintenance				no		no		no		no		no		no		no
35	Equipment Replacement				no		no		no		no		no		no		no

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Cost Category	Description	Cost Center/ Funding Source	2004	Existing Costs	2005	Existing Costs	2006	Existing Costs	2007	Existing Costs	2008	Existing Costs	2009	Existing Costs	2010	Existing Costs
36	Equipment Rental/Lease				no		no		no		no		no		no		no
37	Equipment Electricity				no		no		no		no		no		no		no
38	Equipment Climate Control				no		no		no		no		no		no		no
39	Security Equipment, Software, or Services				no		no		no		no		no		no		no
40	Peripheral Equipment				no		no		no		no		no		no		no
41	Telephone Services				no		no		no		no		no		no		no
42	Supplies				no		no		no		no		no		no		no
43	Mail, Postage, Printing				no		no		no		no		no		no		no
44	Other				no		no		no		no		no		no		no
45					no		no		no		no		no		no		no
46	Portal costs				no		no		no		no		no		no		no
47	Transaction Fees				no		no		no		no		no		no		no
48	Payment Fees				no		no		no		no		no		no		no
49					no		no		no		no		no		no		no
50	General Administrative Fee (SDF)		58,375,394		no		no		no		no		no		no		no
51																	
52				Operational Costs		Operational Costs		Operational Costs		Operational Costs		Operational Costs		Operational Costs		Operational Costs	
53		Grand Total All Years		2004		2005		2006		2007		2008		2009		2010	
54	Total Operational Costs	71,387,442		0		1,532,892		1,532,892		5,205,783		6,220,783		7,235,783		20,716,177	
55	Total New Dollar Operational Costs	70,296,543		0		1,532,892		1,532,892		5,205,783		6,220,783		7,235,783		19,625,278	

	A	B	R	S	T	U	V	W	X	Y
				Existing		Existing		Existing		Existing
1	Cost Category	Description	2011	Costs	2012	Costs	2013	Costs	2014	Costs
2	Personnel									
3	OIR Staff			no		no		no		no
4	Other Consulting Staff			no		no		no		no
5	System Upgrade			no		no		no		no
6	State Staff			no		no		no		no
7	System Upgrade -- existing staff			no		no		no		no
8	System Upgrade -- new staff			no		no		no		no
9	Ongoing Support			no		no		no		no
10	Help Desk / Functional Support (central)		1,519,000	no	1,519,000	no	1,519,000	no	1,519,000	no
11	Help Desk / Functional Support (in agencies)		651,000	no	651,000	no	651,000	no	651,000	no
12	Technical Operations & Support		1,260,000	no	1,260,000	no	1,260,000	no	1,260,000	no
13	Ongoing Training		560,000	no	560,000	no	560,000	no	560,000	no
14	Other		0	no	0	no	0	no	0	no
15				no		no		no		no
16	Software			no		no		no		no
17	Application Software Lease or License Fees		1,800,000	no	1,800,000	no	1,800,000	no	1,800,000	no
18	Application Software Maintenance or Upgrades			no		no		no		no
19	DBMS Software Lease or License Fees			no		no		no		no
20	DBMS Software Maintenance or Upgrades			no		no		no		no
21	System Software Lease or License Fees			no		no		no		no
22	Systems Software Maintenance or Upgrades			no		no		no		no
23				no		no		no		no
24	Training and Travel	Included in Personnel		no		no		no		no
25	IS Staff			no		no		no		no
26	Business Unit Staff			no		no		no		no
27	Consulting Staff			no		no		no		no
28				no		no		no		no
29	On-going Operations			no		no		no		no
30	Telecommunications & Network Services			no		no		no		no
31	Mainframe or OIR Shared Server Costs		1,445,783	no	1,445,783	no	1,445,783	no	1,445,783	no
32	Data Conversion			no		no		no		no
33	Contracted Services			no		no		no		no
34	Equipment Maintenance			no		no		no		no
35	Equipment Replacement			no		no		no		no

Operational Cost Assessment

	A	B	R	S	T	U	V	W	X	Y
1	Cost Category	Description	2011	Existing Costs	2012	Existing Costs	2013	Existing Costs	2014	Existing Costs
36	Equipment Rental/Lease			no		no		no		no
37	Equipment Electricity			no		no		no		no
38	Equipment Climate Control			no		no		no		no
39	Security Equipment, Software, or Services			no		no		no		no
40	Peripheral Equipment			no		no		no		no
41	Telephone Services			no		no		no		no
42	Supplies			no		no		no		no
43	Mail, Postage, Printing			no		no		no		no
44	Other			no		no		no		no
45				no		no		no		no
46	Portal costs			no		no		no		no
47	Transaction Fees			no		no		no		no
48	Payment Fees			no		no		no		no
49				no		no		no		no
50	General Administrative Fee (SDF)			no		no		no		no
51										
52			Operational Costs		Operational Costs		Operational Costs		Operational Costs	
53		Grand Total All Years	2011		2012		2013		2014	
54	Total Operational Costs	71,387,442	7,235,783		7,235,783		7,235,783		7,235,783	
55	Total New Dollar Operational Costs	70,296,543	7,235,783		7,235,783		7,235,783		7,235,783	

4/9/2003

Operational Cost Assessment

Cell: A48

Comment: Credit Card Fees:

Visa/MC: 1.614% of + \$0.24 per transaction

AmEx/Diners/Discover:

\$0.21 per transaction

Benefit Assessment

	A	B	C	D	E	F	G	H	I	J	K	L	M
1						Dollars (for increased agency revenue or decreased costs only)							
2	Category	Benefit Number	Benefit Description	Confidence Factor	Benefit Type	2004	2005	2006	2007	2008	2009	2010	2011
3													
4	Enhanced Service Benefits												
5													
6	Enhanced Financial Benefits				R-A, R-O, D-A,	R-A: increased revenue-annual R-O: increased revenue-one time					D-A: decreased costs-annual D-O: decreased costs-one time		
7	Soft Dollar:												
8	Increased State Revenue				XXXX								
9	Cost Redirection				XXXX								
10	Cost Avoidance												
11	Avoided HR/Payroll		Planned system costs avoided by ERP	1.00	D-A	255,945	31,804	31,804	280,304	60,304	60,304	60,304	60,304
12	Avoided FI/Purch		Planned system costs avoided by ERP	1.00	D-A	930,419	1,205,580	2,799,269	1,482,269	1,482,269	1,626,269	1,482,269	1,482,269
13	Avoided TDOT Costs		Planned system costs avoided by ERP	1.00	D-A	0	0	0	0	0	0	0	0
14	Total Soft Dollar Benefits:		0			0	0	0	0	0	0	0	0
15	Hard Dollar:												
16	Increased Agency Revenue				XXXX								
17	Increased Agency Revenue				XXXX								
18	Decreased Costs												
19	HR/Payroll Systems		Existing system costs replaced by ERP	1.00	D-A	0	0	0	3,528,724	3,178,517	3,278,805	3,364,561	3,463,235
20	FI/Purch Systems		Existing system costs replaced by ERP	1.00	D-A	0	0	0	0	0	14,241,825	12,209,842	9,421,810
21	TDOT Systems		Existing system costs replaced by ERP	1.00	D-A	0	0	0	0	0	0	2,302,733	5,205,466
22	Decreased Costs												
23	HR/Payroll Savings		Process Improvement Savings from ERP (Value Pockets)	1.00	D-A	0	0	0	1,390,496	2,780,992	4,171,488	4,171,488	4,171,488
24	FI/Purch Savings		Process Improvement Savings from ERP (Value Pockets)	1.00	D-A	0	0	0	0	641,090	1,282,180	2,564,359	3,846,539
25	TDOT Savings		Process Improvement Savings from ERP (Value Pockets)	1.00	D-A	0	0	0	0	0	0	225,409	450,817
26													
27	Hard Dollar Totals:		Total All Years			2004	2005	2006	2007	2008	2009	2010	2011
28	Increased Agency Revenue - One time		0			0	0	0	0	0	0	0	0
29	Increased Agency Revenue - Annual		0			0	0	0	0	0	0	0	0
30	Decreased Costs - One time		0			0	0	0	0	0	0	0	0
31	Decreased Costs - Annual		167,969,670			0	0	0	4,919,220	6,600,599	22,974,298	24,838,392	26,559,356
32													
33				Confidence Factor should be applied to each line item. This is not automatically calculated in the provided formulas.									

Benefit Assessment

	A	B	C	N	O	P
1						
2	Category	Benefit Number	Benefit Description	2012	2013	2014
3						
4	Enhanced Service Benefits					
5						
6	Enhanced Financial Benefits					
7	Soft Dollar:					
8	Increased State Revenue					
9	Cost Redirection					
10	Cost Avoidance					
11	Avoided HR/Payroll		Planned system costs avoided by ERP	60,304	60,304	60,304
12	Avoided FI/Purch		Planned system costs avoided by ERP	1,482,269	1,482,269	1,482,269
13	Avoided TDOT Costs		Planned system costs avoided by ERP	0	0	0
14	Total Soft Dollar Benefits		0	0	0	0
15	Hard Dollar:					
16	Increased Agency Revenue					
17	Increased Agency Revenue					
18	Decreased Costs					
19	HR/Payroll Systems		Existing system costs replaced by ERP	3,958,584	3,672,669	3,672,669
20	FI/Purch Systems		Existing system costs replaced by ERP	9,546,696	9,734,013	9,734,013
21	TDOT Systems		Existing system costs replaced by ERP	5,225,466	5,225,466	5,225,466
22	Decreased Costs					
23	HR/Payroll Savings		Process Improvement Savings from ERP (Value Pockets)	4,171,488	4,171,488	4,171,488
24	FI/Purch Savings		Process Improvement Savings from ERP (Value Pockets)	3,846,539	3,846,539	3,846,539
25	TDOT Savings		Process Improvement Savings from ERP (Value Pockets)	676,226	676,226	676,226
26						
27	Hard Dollar Totals:		Total All Years	2012	2013	2014
28	Increased Agency Revenue - One time		0	0	0	0
29	Increased Agency Revenue - Annual		0	0	0	0
30	Decreased Costs - One time		0	0	0	0
31	Decreased Costs - Annual		167,969,670	27,425,000	27,326,402	27,326,402
32						
33						

State of Tennessee
ERP Automation Assessment Project
Scenario 1: HR/Payroll Only

Estimated Hours															
Phases -->		Acquire.	HR/Payroll		Fin/Purc	TDOT		Upgr.							
	Cost Category	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total	% of Total	% of Contractor
1	Project Management		5,400	5,400									10,800	1.4%	9.3%
2	Independent Project Oversight	2,814	5,400	5,400									13,614	1.7%	11.7%
3	Software Configuration & Process Re-engineering														
4	Financial Mgmt., Budget Dev., Procure., Inventory												0	0.0%	0.0%
5	HR/Payroll		18,000	18,000									36,000	4.6%	31.0%
6	Total Software Installation, Configuration & Process Re-engineering	0	18,000	18,000	0	0	0	0	0	0	0	0	36,000	4.6%	31.0%
7	Workflow Configuration														
8	Financial Mgmt., Budget Dev., Procure., Inventory												0	0.0%	0.0%
9	HR/Payroll		1,050	1,235									2,285	0.3%	2.0%
10	Total Workflow Configuration	0	1,050	1,235	0	0	0	0	0	0	0	0	2,285	0.3%	2.0%
11	Custom Development														
12	Interfaces														
13	Financial Mgmt., Budget Dev., Procure., Inventory												0	0.0%	0.0%
14	HR/Payroll		691	2,765									3,456	0.4%	3.0%
15	Total Interfaces	0	691	2,765	0	0	0	0	0	0	0	0	3,456	0.4%	3.0%
16	Software Modifications														
17	Financial Mgmt., Budget Dev., Procure., Inventory												0	0.0%	0.0%
18	HR/Payroll		3,289	2,796									6,085	0.8%	5.2%
19	Total Software Modification	0	3,289	2,796	0	0	0	0	0	0	0	0	6,085	0.8%	5.2%
20	Report Development														
21	Financial Mgmt., Budget Dev., Procure., Inventory												0	0.0%	0.0%
22	HR/Payroll		2,040	2,640									4,680	0.6%	4.0%
23	Total Report Development	0	2,040	2,640	0	0	0	0	0	0	0	0	4,680	0.6%	4.0%
24	Data Conversion / Loading														
25	Financial Mgmt., Budget Dev., Procure., Inventory												0	0.0%	0.0%
26	HR/Payroll		355	1,421									1,776	0.2%	1.5%
27	Total Data Conversion / Loading	0	355	1,421	0	0	0	0	0	0	0	0	1,776	0.2%	1.5%
28	Organizational Change Management														
29	Executive Sponsorship & Communication		1,800	3,600									5,400	0.7%	4.6%
30	Other												0	0.0%	0.0%
31	Total Change Management	0	1,800	3,600	0	0	0	0	0	0	0	0	5,400	0.7%	4.6%
32	Training & Documentation														
33	Project Team Training (estimated in \$, not hours)														
34	Financial Mgmt., Budget Dev., Procure., Inventory														
35	HR/Payroll														
36	Total Project Team Training														
37	End User Training														
38	Financial Mgmt., Budget Dev., Procure., Inventory												0	0.0%	0.0%
39	HR/Payroll		5,600	6,800									12,400	1.6%	10.7%
40	Total End User Training	0	5,600	6,800	0	0	0	0	0	0	0	0	12,400	1.6%	10.7%
41	Total Training & Documentation	0	5,600	6,800	0	0	0	0	0	0	0	0	12,400	1.6%	10.7%
42	Infrastructure Development & Project Support		5,400	5,400									10,800	1.4%	9.3%
43	Post-Implementation Support														
44	Financial Mgmt., Budget Dev., Procure., Inventory												0	0.0%	0.0%
45	HR/Payroll				9,000								9,000	1.1%	7.7%
46	Total Post-Implementation Support	0	0	0	9,000	0	0	0	0	0	0	0	9,000	1.1%	7.7%
47	Total Contractor Hours	2,814	49,025	55,456	9,000	0	0	0	0	0	0	0	116,295	14.9%	100.0%
48		1.6	27.2	30.8	5.0	-	-	-	-	-	-	-	-	-	-
49	State Employee Implementation Hours	42,769	73,538	89,934	13,500	0	0	0	0	0	0	0	219,741	28.1%	
50	FTEs	23.8	40.9	50.0	7.5	-	-	-	-	-	-	-	-	-	-
51	Grand Total Implementation Hours	45,583	122,564	145,389	22,500	0	0	0	0	0	0	0	336,036	42.9%	
52															
53	Application Software License (not hours-based)														
54	Financial Mgmt., Budget Dev., Procure., Inventory														
55	HR/Payroll														
56	Total Application Software License														
57	Software Maintenance Fee (not hours-based)														
58	Financial Mgmt., Budget Dev., Procure., Inventory														
59	HR/Payroll														
60	Total Software Maintenance Fee														
61	All Other (facilities, etc.)														
62	Annual Operating Costs (data center)														
63	Total Implementation	45,583	122,564	145,389	22,500	0	0	0	0	0	0	0	336,036	42.9%	
64															
65	Ongoing Support / Operations														
66	Help Desk / Functional Support (central)				20,160	20,160	20,160	20,160	20,160	20,160	20,160	20,160	161,280	20.6%	
67	Help Desk / Functional Support (in agencies)				8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	69,120	8.8%	
68	Technical Operations and Support				16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	129,600	16.6%	
69	Ongoing Training				5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	43,200	5.5%	
70	Other				-	-	-	-	-	-	-	-	0	0.0%	
71	Total Support / Operations	0	0	0	50,400	50,400	50,400	50,400	50,400	50,400	50,400	50,400	403,200	51.5%	
72	FTEs	-	-	-	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	-	-
73															
74	Upgrade in Year 6														
75	Contractor Hours							17,444					17,444	2.2%	
76	State Employee Hours							26,166					26,166	3.3%	
77	Total Upgrade Hours							43,611					43,611	5.6%	
78															
79	Total Annual ERP	45,583	122,564	145,389	72,900	50,400	50,400	94,011	50,400	50,400	50,400	50,400	782,847	100.0%	

State of Tennessee

ERP Automation Assessment Project

Scenario 1: HR/Payroll Only

Estimated Costs Schedule															
	Phases -->	Acquire.	HR/Payroll		Fin/Purch.	TDOT		Upgrade						% of Total	
	Cost Category	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Impl. (people)	10-yr Total
1	Project Management	-	1,242,000	1,242,000	-	-	-	-	-	-	-	-	\$ 2,484,000	7.8%	3.4%
2	Independent Project Oversight	562,800	1,080,000	1,080,000	-	-	-	-	-	-	-	-	\$ 2,722,800	8.6%	3.7%
3	Software Configuration & Process Re-engineering														
4	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
5	HR/Payroll	-	4,140,000	4,140,000	-	-	-	-	-	-	-	-	\$ 8,280,000		
6	Total Software Installation, Configuration & Process Re-engineering	-	4,140,000	4,140,000	-	-	-	-	-	-	-	-	\$ 8,280,000	26.1%	11.2%
7	Workflow Configuration														
8	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
9	HR/Payroll	-	241,500	283,935	-	-	-	-	-	-	-	-	\$ 525,435		
10	Total Workflow Configuration	-	241,500	283,935	-	-	-	-	-	-	-	-	\$ 525,435	1.7%	0.7%
11	Custom Development														
12	Interfaces														
13	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
14	HR/Payroll	-	158,976	635,904	-	-	-	-	-	-	-	-	\$ 794,880		
15	Total Interfaces	-	158,976	635,904	-	-	-	-	-	-	-	-	\$ 794,880	2.5%	1.1%
16	Software Modifications														
17	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
18	HR/Payroll	-	756,470	643,000	-	-	-	-	-	-	-	-	\$ 1,399,470		
19	Total Software Modification	-	756,470	643,000	-	-	-	-	-	-	-	-	\$ 1,399,470	4.4%	1.9%
20	Report Development														
21	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
22	HR/Payroll	-	469,200	607,200	-	-	-	-	-	-	-	-	\$ 1,076,400		
23	Total Report Development	-	469,200	607,200	-	-	-	-	-	-	-	-	\$ 1,076,400	3.4%	1.5%
24	Data Conversion / Loading														
25	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
26	HR/Payroll	-	81,696	326,784	-	-	-	-	-	-	-	-	\$ 408,480		
27	Total Data Conversion / Loading	-	81,696	326,784	-	-	-	-	-	-	-	-	\$ 408,480	1.3%	0.6%
28	Organizational Change Management														
29	Executive Sponsorship & Communication	-	414,000	828,000	-	-	-	-	-	-	-	-	\$ 1,242,000		
30	Other	-	-	-	-	-	-	-	-	-	-	-	\$ -		
31	Total Change Management	-	414,000	828,000	-	-	-	-	-	-	-	-	\$ 1,242,000	3.9%	1.7%
32	Training & Documentation														
33	Project Team Training														
34	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
35	HR/Payroll	-	300,000	-	-	-	-	-	-	-	-	-	\$ 300,000		
36	Total Project Team Training	-	300,000	-	-	-	-	-	-	-	-	-	\$ 300,000	0.9%	0.4%
37	End User Training														
38	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
39	HR/Payroll	-	1,288,000	1,579,000	-	-	-	-	-	-	-	-	\$ 2,867,000		
39	Total End User Training	-	1,288,000	1,579,000	-	-	-	-	-	-	-	-	\$ 2,867,000	9.0%	3.9%
40	Total Training & Documentation	-	1,588,000	1,579,000	-	-	-	-	-	-	-	-	\$ 3,167,000		
41	Infrastructure Development & Project Support	-	1,242,000	1,242,000	-	-	-	-	-	-	-	-	\$ 2,484,000	7.8%	3.4%
42	Post-Implementation Support														
43	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
44	HR/Payroll	-	-	-	2,070,000	-	-	-	-	-	-	-	\$ 2,070,000		
45	Total Post-Implementation Support	-	-	-	2,070,000	-	-	-	-	-	-	-	\$ 2,070,000	6.5%	2.8%
46															
46	Total Contractor Cost	562,800	11,413,842	12,607,823	2,070,000	-	-	-	-	-	-	-	\$ 26,654,465	83.9%	36.0%
47	State Employee Implementation Cost (backfill)	997,945	1,715,889	2,098,451	315,000	-	-	-	-	-	-	-	\$ 5,127,285	16.1%	6.9%
48	Grand Total Implementation Cost (people only)	1,560,745	13,129,731	14,706,274	2,385,000	-	-	-	-	-	-	-	\$ 31,781,749	100.0%	42.9%

State of Tennessee

ERP Automation Assessment Project

Scenario 1: HR/Payroll Only

Estimated Costs Schedule															
	Phases -->	Acquire.	HR/Payroll		Fin/Purch.	TDOT		Upgrade						% of Total	
	Cost Category	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Impl. (people)	10-yr Total
1	Project Management	-	1,242,000	1,242,000	-	-	-	-	-	-	-	-	\$ 2,484,000	7.8%	3.4%
2	Independent Project Oversight	562,800	1,080,000	1,080,000	-	-	-	-	-	-	-	-	\$ 2,722,800	8.6%	3.7%
3	Software Configuration & Process Re-engineering														
4	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
5	HR/Payroll	-	4,140,000	4,140,000	-	-	-	-	-	-	-	-	\$ 8,280,000		
6	Total Software Installation, Configuration & Process Re-engineering	-	4,140,000	4,140,000	-	-	-	-	-	-	-	-	\$ 8,280,000	26.1%	11.2%
7	Workflow Configuration														
8	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
9	HR/Payroll	-	241,500	283,935	-	-	-	-	-	-	-	-	\$ 525,435		
10	Total Workflow Configuration	-	241,500	283,935	-	-	-	-	-	-	-	-	\$ 525,435	1.7%	0.7%
11	Custom Development														
12	Interfaces														
13	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
14	HR/Payroll	-	158,976	635,904	-	-	-	-	-	-	-	-	\$ 794,880		
15	Total Interfaces	-	158,976	635,904	-	-	-	-	-	-	-	-	\$ 794,880	2.5%	1.1%
16	Software Modifications														
17	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
18	HR/Payroll	-	756,470	643,000	-	-	-	-	-	-	-	-	\$ 1,399,470		
19	Total Software Modification	-	756,470	643,000	-	-	-	-	-	-	-	-	\$ 1,399,470	4.4%	1.9%
20	Report Development														
21	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
22	HR/Payroll	-	469,200	607,200	-	-	-	-	-	-	-	-	\$ 1,076,400		
23	Total Report Development	-	469,200	607,200	-	-	-	-	-	-	-	-	\$ 1,076,400	3.4%	1.5%
24	Data Conversion / Loading														
25	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
26	HR/Payroll	-	81,696	326,784	-	-	-	-	-	-	-	-	\$ 408,480		
27	Total Data Conversion / Loading	-	81,696	326,784	-	-	-	-	-	-	-	-	\$ 408,480	1.3%	0.6%
28	Organizational Change Management														
29	Executive Sponsorship & Communication	-	414,000	828,000	-	-	-	-	-	-	-	-	\$ 1,242,000		
30	Other	-	-	-	-	-	-	-	-	-	-	-	\$ -		
31	Total Change Management	-	414,000	828,000	-	-	-	-	-	-	-	-	\$ 1,242,000	3.9%	1.7%
32	Training & Documentation														
33	Project Team Training														
34	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
35	HR/Payroll	-	300,000	-	-	-	-	-	-	-	-	-	\$ 300,000		
36	Total Project Team Training	-	300,000	-	-	-	-	-	-	-	-	-	\$ 300,000	0.9%	0.4%
37	End User Training														
38	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
39	HR/Payroll	-	1,288,000	1,579,000	-	-	-	-	-	-	-	-	\$ 2,867,000		
39	Total End User Training	-	1,288,000	1,579,000	-	-	-	-	-	-	-	-	\$ 2,867,000	9.0%	3.9%
40	Total Training & Documentation	-	1,588,000	1,579,000	-	-	-	-	-	-	-	-	\$ 3,167,000		
41	Infrastructure Development & Project Support	-	1,242,000	1,242,000	-	-	-	-	-	-	-	-	\$ 2,484,000	7.8%	3.4%
42	Post-Implementation Support														
43	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		
44	HR/Payroll	-	-	-	2,070,000	-	-	-	-	-	-	-	\$ 2,070,000		
45	Total Post-Implementation Support	-	-	-	2,070,000	-	-	-	-	-	-	-	\$ 2,070,000	6.5%	2.8%
46															
46	Total Contractor Cost	562,800	11,413,842	12,607,823	2,070,000	-	-	-	-	-	-	-	\$ 26,654,465	83.9%	36.0%
47	State Employee Implementation Cost (backfill)	997,945	1,715,889	2,098,451	315,000	-	-	-	-	-	-	-	\$ 5,127,285	16.1%	6.9%
48	Grand Total Implementation Cost (people only)	1,560,745	13,129,731	14,706,274	2,385,000	-	-	-	-	-	-	-	\$ 31,781,749	100.0%	42.9%
49															
50	Application Software License														
51	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	-	-	-	-	-	-	-	\$ -		

State of Tennessee
ERP Automation Assessment Project
Scenario 1: HR/Payroll Only

	Phases -->	Acquire.	HR/Payroll		Fin/Purch.	TDOT		Upgrade						% of Total	
	Cost Category	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Impl. (people)	10-yr Total
52	HR/Payroll		4,500,000										\$ 4,500,000		
53	Total Application Software License	-	4,500,000	-	-	-	-	-	-	-	-	-	\$ 4,500,000		6.1%
54	Software Maintenance Fee														
55	Financial Mgmt., Budget Dev., Procure., Inventory				-	-	-	-	-	-	-	-	\$ -		
56	HR/Payroll		810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	\$ 8,100,000		
57	Total Software Maintenance Fee	-	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	\$ 8,100,000		10.9%
58	All Other (facilities, etc.)		310,000	310,000	310,000	310,000	310,000	310,000					\$ 1,860,000		2.5%
59	Annual Operating Costs (data center)		722,892	872,892	722,892	822,892	772,892	722,892	722,892	722,892	722,892	722,892	\$ 7,528,916		10.2%
60															
61	Total Implementation Cost	1,560,745	19,472,623	16,699,165	4,227,892	1,942,892	1,892,892	1,842,892	1,532,892	1,532,892	1,532,892	1,532,892	\$ 53,770,665		72.6%
62															
63	Ongoing Support / Operations														
64	Help Desk / Functional Support (central)	-	-	-	784,000	784,000	784,000	784,000	784,000	784,000	784,000	784,000	\$ 6,272,000		8.5%
65	Help Desk / Functional Support (in agencies)	-	-	-	336,000	336,000	336,000	336,000	336,000	336,000	336,000	336,000	\$ 2,688,000		3.6%
66	Technical Operations and Support	-	-	-	630,000	630,000	630,000	630,000	630,000	630,000	630,000	630,000	\$ 5,040,000		6.8%
67	Ongoing Training	-	-	-	210,000	210,000	210,000	210,000	210,000	210,000	210,000	210,000	\$ 1,680,000		2.3%
68	Other	-	-	-	-	-	-	-	-	-	-	-	\$ -		
69	Total Support / Operations	-	-	-	1,960,000	1,960,000	1,960,000	1,960,000	1,960,000	1,960,000	1,960,000	1,960,000	\$ 15,680,000		21.2%
70															
71	Upgrade in Year 6														0.0%
72	Contractor							4,012,183					\$ 4,012,183		5.4%
73	State Employees							610,550					\$ 610,550		0.8%
74	Total Upgrade Cost							4,622,732					\$ 4,622,732		6.2%
75															
76	Total Annual ERP Cost	1,560,745	19,472,623	16,699,165	6,187,892	3,902,892	3,852,892	8,425,624	3,492,892	3,492,892	3,492,892	3,492,892	\$ 74,073,397		100.0%
77															
78	Cumulative ERP Cost	1,560,745	21,033,367	37,732,532	43,920,424	47,823,316	51,676,207	60,101,831	63,594,722	67,087,614	70,580,506	74,073,397			

State of Tennessee
ERP Automation Assessment Project
Scenario 1: HR/Payroll Only

Financial Summary																			
	Phases -->	Acquire.	HR/Payroll			Fin/Purch.	TDOT		Upgrade										
	CBA Component	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Year 11	Year 12	Year 13	Year 14	Total	
1	ERP Implementation	1,560,745	19,472,623	16,699,165	6,187,892	3,902,892	3,852,892	8,425,624	3,492,892	3,492,892	3,492,892	3,492,892	74,073,397	3,492,892	3,492,892	3,492,892	3,492,892	88,044,963	
2																			
3	Existing System Cost -- HR/Payroll				3,528,724	3,178,517	3,278,805	3,364,561	3,463,235	3,958,584	3,672,669	3,672,669	28,117,764	3,672,669	3,672,669	3,672,669	3,672,669	42,808,442	
4	Avoided System Cost -- HR/Payroll (planned)	255,945	31,804	31,804	280,304	60,304	60,304	60,304	60,304	60,304	60,304	60,304	1,021,985	60,304	60,304	60,304	60,304	60,304	
5	Existing System Cost -- Financials/Procurement												-	-	-	-	-	-	
6	Avoided System Cost -- Financials/Procurement (planned)												-	-	-	-	-	-	
7	Existing System Cost -- TDOT												-	-	-	-	-	-	
8	Avoided System Cost -- TDOT (planned)												-	-	-	-	-	-	
9	Total System Cost	255,945	31,804	31,804	3,809,028	3,238,821	3,339,109	3,424,865	3,523,539	4,018,888	3,732,973	3,732,973	29,139,749	3,732,973	3,732,973	3,732,973	3,732,973	44,071,643	
10																			
11	Value Pocket Benefits/Savings -- HR/Payroll				1,390,496	2,780,992	4,171,488	4,171,488	4,171,488	4,171,488	4,171,488	4,171,488	29,200,419	4,171,488	4,171,488	4,171,488	4,171,488	45,886,373	
12	Value Pocket Benefits/Savings -- Financials/Procurement												-					-	
13	Value Pocket Benefits/Savings -- TDOT Phase												-					-	
14	Total Value Pocket Benefits/Savings	-	-	-	1,390,496	2,780,992	4,171,488	4,171,488	4,171,488	4,171,488	4,171,488	4,171,488	29,200,419	4,171,488	4,171,488	4,171,488	4,171,488	45,886,373	
15																			
16	Net Benefit	(1,304,800)	(19,440,819)	(16,667,361)	(988,367)	2,116,921	3,657,706	(829,270)	4,202,136	4,697,485	4,411,570	4,411,570	(15,733,228)	4,411,570	4,411,570	4,411,570	4,411,570	1,913,053	
17																			
18	Cumulative Net Benefit (breakeven)	(1,304,800)	(20,745,618)	(37,412,979)	(38,401,346)	(36,284,425)	(32,626,720)	(33,455,990)	(29,253,854)	(24,556,369)	(20,144,798)	(15,733,228)		(11,321,658)	(6,910,088)	(2,498,518)	1,913,053		
19																			
20	Internal Rate of Return (IRR)												-8.0%	-5.0%	-2.7%	-0.9%	0.6%	0.6%	
21																			
22	Risk Adjustment -- ERP Implementation	(1,560,745)	(19,472,623)	(16,699,165)	(6,187,892)	(3,902,892)	(3,852,892)	(8,425,624)	(3,492,892)	(3,492,892)	(3,492,892)	(3,492,892)	(74,073,397)	(3,492,892)	(3,492,892)	(3,492,892)	(3,492,892)	(88,044,963)	
23	Risk Adjustment -- System cost	255,945	31,804	31,804	3,809,028	3,238,821	3,339,109	3,424,865	3,523,539	4,018,888	3,732,973	3,732,973	29,139,749	3,732,973	3,732,973	3,732,973	3,732,973	44,071,643	
24	Risk Adjustment -- Value Pocket Benefits/Savings	-	-	-	1,390,496	2,780,992	4,171,488	4,171,488	4,171,488	4,171,488	4,171,488	4,171,488	29,200,419	4,171,488	4,171,488	4,171,488	4,171,488	45,886,373	
25	Risk Adjustment -- Internal Rate of Return (IRR)																		
26																			
27	Risk-Adjusted Net Benefit	(1,304,800)	(19,440,819)	(16,667,361)	(988,367)	2,116,921	3,657,706	(829,270)	4,202,136	4,697,485	4,411,570	4,411,570	(15,733,228)	4,411,570	4,411,570	4,411,570	4,411,570	1,913,053	
28																			
29	Cumulative Net Benefit (Risk Adjusted)	(1,304,800)	(20,745,618)	(37,412,979)	(38,401,346)	(36,284,425)	(32,626,720)	(33,455,990)	(29,253,854)	(24,556,369)	(20,144,798)	(15,733,228)		(11,321,658)	(6,910,088)	(2,498,518)	1,913,053		
30																			
31	Internal Rate of Return (IRR)												-8.0%	-5.0%	-2.7%	-0.9%	0.6%		

State of Tennessee
ERP Automation Assessment Project
Scenario 2: Not Replacing TDOT's Financials and Not Replacing TIS

Estimated Hours															
Phases -->		Acquire.	HR/Payroll		Fin/Purc	TDOT	Upgr.								
	Cost Category	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total	% of Total	% of Contractor
1	Project Management		5,400	5,400	5,400	3,240							19,440	1.3%	8.1%
2	Independent Project Oversight	4,200	5,400	5,400	5,400	3,240							23,640	1.5%	9.9%
3	Software Configuration & Process Re-engineering														
4	Financial Mgmt., Budget Dev., Procure., Inventory				25,000	14,000							39,000	2.6%	16.3%
5	HR/Payroll		18,000	18,000									36,000	2.4%	15.0%
6	Total Software Installation, Configuration & Process Re-engineering	0	18,000	18,000	25,000	14,000	0	0	0	0	0	0	75,000	4.9%	31.3%
7	Workflow Configuration														
8	Financial Mgmt., Budget Dev., Procure., Inventory				1,333	691							2,025	0.1%	0.8%
9	HR/Payroll		1,050	1,235									2,285	0.1%	1.0%
10	Total Workflow Configuration	0	1,050	1,235	1,333	691	0	0	0	0	0	0	4,309	0.3%	1.8%
11	Custom Development														
12	Interfaces														
13	Financial Mgmt., Budget Dev., Procure., Inventory				867	5,463							6,331	0.4%	2.6%
14	HR/Payroll		691	2,765									3,456	0.2%	1.4%
15	Total Interfaces	0	691	2,765	867	5,463	0	0	0	0	0	0	9,787	0.6%	4.1%
16	Software Modifications														
17	Financial Mgmt., Budget Dev., Procure., Inventory				6,578	1,496							8,074	0.5%	3.4%
18	HR/Payroll		3,289	2,796									6,085	0.4%	2.5%
19	Total Software Modification	0	3,289	2,796	6,578	1,496	0	0	0	0	0	0	14,159	0.9%	5.9%
20	Report Development														
21	Financial Mgmt., Budget Dev., Procure., Inventory				4,200	1,428							5,628	0.4%	2.3%
22	HR/Payroll		2,040	2,640									4,680	0.3%	2.0%
23	Total Report Development	0	2,040	2,640	4,200	1,428	0	0	0	0	0	0	10,308	0.7%	4.3%
24	Data Conversion / Loading														
25	Financial Mgmt., Budget Dev., Procure., Inventory				355	995							1,350	0.1%	0.6%
26	HR/Payroll		355	1,421									1,776	0.1%	0.7%
27	Total Data Conversion / Loading	0	355	1,421	355	995	0	0	0	0	0	0	3,126	0.2%	1.3%
28	Organizational Change Management														
29	Executive Sponsorship & Communication		1,800	3,600	3,600	2,520							11,520	0.8%	4.8%
30	Other												0	0.0%	0.0%
31	Total Change Management	0	1,800	3,600	3,600	2,520	0	0	0	0	0	0	11,520	0.8%	4.8%
32	Training & Documentation														
33	Project Team Training (estimated in \$, not hours)														
34	Financial Mgmt., Budget Dev., Procure., Inventory														
35	HR/Payroll														
36	Total Project Team Training														
37	End User Training														
38	Financial Mgmt., Budget Dev., Procure., Inventory				8,400	8,120							16,520	1.1%	6.9%
39	HR/Payroll		5,600	6,800									12,400	0.8%	5.2%
40	Total End User Training	0	5,600	6,800	8,400	8,120	0	0	0	0	0	0	28,920	1.9%	12.1%
41	Total Training & Documentation	0	5,600	6,800	8,400	8,120	0	0	0	0	0	0	28,920	1.9%	12.1%
42	Infrastructure Development & Project Support		5,400	5,400	5,400	5,400							21,600	1.4%	9.0%
43	Post-Implementation Support														
44	Financial Mgmt., Budget Dev., Procure., Inventory					9,000							9,000	0.6%	3.8%
45	HR/Payroll					9,000							9,000	0.6%	3.8%
46	Total Post-Implementation Support	0	0	0	9,000	9,000	0	0	0	0	0	0	18,000	1.2%	7.5%
47	Total Contractor Hours	4,200	49,025	55,456	75,534	55,594	0	0	0	0	0	0	239,809	15.7%	100.0%
48		2.3	27.2	30.8	42.0	30.9	-	-	-	-	-	-			
49	State Employee Implementation Hours	46,769	73,538	139,834	113,300	83,391	0	0	0	0	0	0	456,832	29.9%	
50	FTEs	26.0	40.9	77.7	62.9	46.3	-	-	-	-	-	-			
51	Grand Total Implementation Hours	50,969	122,564	195,290	188,834	138,984	0	0	0	0	0	0	696,641	45.6%	
52															
53	Application Software License (not hours-based)														
54	Financial Mgmt., Budget Dev., Procure., Inventory														
55	HR/Payroll														
56	Total Application Software License														
57	Software Maintenance Fee (not hours-based)														
58	Financial Mgmt., Budget Dev., Procure., Inventory														
59	HR/Payroll														
60	Total Software Maintenance Fee														
61	All Other (facilities, etc.)														
62	Annual Operating Costs (data center)														
63	Total Implementation	50,969	122,564	195,290	188,834	138,984	0	0	0	0	0	0	696,641	45.6%	
64															
65	Ongoing Support / Operations														
66	Help Desk / Functional Support (central)				20,160	29,610	39,060	39,060	39,060	39,060	39,060	39,060	284,130	18.6%	
67	FTEs				11.2	16.5	21.7	21.7	21.7	21.7	21.7	21.7			
68	Help Desk / Functional Support (in agencies)				8,640	12,690	16,740	16,740	16,740	16,740	16,740	16,740	121,770	8.0%	
69	FTEs				4.8	7.1	9.3	9.3	9.3	9.3	9.3	9.3			
70	Technical Operations and Support				16,200	24,300	32,400	32,400	32,400	32,400	32,400	32,400	234,900	15.4%	
71	FTEs				9.0	13.5	18.0	18.0	18.0	18.0	18.0	18.0			
72	Ongoing Training				5,400	9,900	14,400	14,400	14,400	14,400	14,400	14,400	101,700	6.7%	
73	FTEs				3.0	5.5	8.0	8.0	8.0	8.0	8.0	8.0			
74	Other				-	-	-	-	-	-	-	-	0	0.0%	
75	Total Support / Operations	0	0	0	50,400	76,500	102,600	102,600	102,600	102,600	102,600	102,600	742,500	48.6%	
76	FTEs	-	-	-	28.0	42.5	57.0	57.0	57.0	57.0	57.0	57.0			
77															
78	Upgrade in Year 6														
79	Contractor Hours						35,971						35,971	2.4%	
80	State Employee Hours						53,957						53,957	3.5%	
81	Total Upgrade Hours						89,928						89,928	5.9%	
82															
83	Total Annual ERP	50,969	122,564	195,290	239,234	215,484	102,600	192,528	102,600	102,600	102,600	102,600	1,529,069	100.0%	

State of Tennessee
ERP Automation Assessment Project
Scenario 2: Not Replacing TDOT Financial and Not Replacing TIS

Estimated Costs Schedule															
	Phases →	Acquire.	HR/Payroll		Fin/Purch.		TDOT		Upgrade						% of Total
	Cost Category	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Impl. (people)	10-yr Total
1	Project Management	-	1,242,000	1,242,000	1,242,000	745,200	-	-	-	-	-	-	\$ 4,471,200	6.8%	3.1%
2	Independent Project Oversight	840,000	1,080,000	1,080,000	1,080,000	648,000	-	-	-	-	-	-	\$ 4,728,000	7.2%	3.3%
3	Software Configuration & Process Re-engineering														
4	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	5,750,000	3,220,000	-	-	-	-	-	-	\$ 8,970,000		
5	HR/Payroll	-	4,140,000	4,140,000	-	-	-	-	-	-	-	-	\$ 8,280,000		
6	Total Software Configuration & Process Re-engineering	-	4,140,000	4,140,000	5,750,000	3,220,000	-	-	-	-	-	-	\$ 17,250,000	26.2%	12.0%
7	Workflow Configuration														
8	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	306,650	159,004	-	-	-	-	-	-	\$ 465,653		
9	HR/Payroll	-	241,500	283,935	-	-	-	-	-	-	-	-	\$ 525,435		
10	Total Workflow Configuration	-	241,500	283,935	306,650	159,004	-	-	-	-	-	-	\$ 991,088	1.5%	0.7%
11	Custom Development														
12	Interfaces														
13	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	199,456	1,256,573	-	-	-	-	-	-	\$ 1,456,029		
14	HR/Payroll	-	158,976	635,904	-	-	-	-	-	-	-	-	\$ 794,880		
15	Total Interfaces	-	158,976	635,904	199,456	1,256,573	-	-	-	-	-	-	\$ 2,250,909	3.4%	1.6%
16	Software Modifications														
17	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	1,512,940	344,194	-	-	-	-	-	-	\$ 1,857,134		
18	HR/Payroll	-	756,470	643,000	-	-	-	-	-	-	-	-	\$ 1,399,470		
19	Total Software Modification	-	756,470	643,000	1,512,940	344,194	-	-	-	-	-	-	\$ 3,256,603	5.0%	2.3%
20	Report Development														
21	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	966,000	328,440	-	-	-	-	-	-	\$ 1,294,440		
22	HR/Payroll	-	469,200	607,200	-	-	-	-	-	-	-	-	\$ 1,076,400		
23	Total Report Development	-	469,200	607,200	966,000	328,440	-	-	-	-	-	-	\$ 2,370,840	3.6%	1.7%
24	Data Conversion / Loading														
25	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	81,696	228,749	-	-	-	-	-	-	\$ 310,445		
26	HR/Payroll	-	81,696	326,784	-	-	-	-	-	-	-	-	\$ 408,480		
27	Total Data Conversion / Loading	-	81,696	326,784	81,696	228,749	-	-	-	-	-	-	\$ 718,925	1.1%	0.5%
28	Organizational Change Management														
29	Executive Sponsorship & Communication	-	414,000	828,000	828,000	579,600	-	-	-	-	-	-	\$ 2,649,600		
30	Other	-	-	-	-	-	-	-	-	-	-	-	\$ -		
31	Total Change Management	-	414,000	828,000	828,000	579,600	-	-	-	-	-	-	\$ 2,649,600	4.0%	1.8%
32	Training & Documentation														
33	Project Team Training														
34	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	200,000	100,000	-	-	-	-	-	-	\$ 300,000		
35	HR/Payroll	-	300,000	-	-	-	-	-	-	-	-	-	\$ 300,000		
36	Total Project Team Training	-	300,000	-	200,000	100,000	-	-	-	-	-	-	\$ 600,000	0.9%	0.4%
37	End User Training														
38	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	1,932,000	1,892,600	-	-	-	-	-	-	\$ 3,824,600		
39	HR/Payroll	-	1,288,000	1,579,000	-	-	-	-	-	-	-	-	\$ 2,867,000		
39	Total End User Training	-	1,288,000	1,579,000	1,932,000	1,892,600	-	-	-	-	-	-	\$ 6,691,600	10.2%	4.7%
40	Total Training & Documentation	-	1,588,000	1,579,000	2,132,000	1,992,600	-	-	-	-	-	-	\$ 7,291,600		
41	Infrastructure Development & Project Support														
41		-	1,242,000	1,242,000	1,242,000	1,242,000	-	-	-	-	-	-	\$ 4,968,000	7.6%	3.5%
42	Post-Implementation Support														
43	Financial Mgmt., Budget Dev., Procure., Inventory	-	-	-	-	2,070,000	-	-	-	-	-	-	\$ 2,070,000		
44	HR/Payroll	-	-	-	2,070,000	-	-	-	-	-	-	-	\$ 2,070,000		
44	Total Post-Implementation Support	-	-	-	2,070,000	2,070,000	-	-	-	-	-	-	\$ 4,140,000	6.3%	2.9%
46															
46	Total Contractor Cost	840,000	11,413,842	12,607,823	17,410,742	12,814,359	-	-	-	-	-	-	\$ 55,086,765	83.8%	38.4%
47	State Employee Implementation Cost (backfill)	1,091,278	1,715,889	3,262,790	2,643,678	1,945,781	-	-	-	-	-	-	\$ 10,659,416	16.2%	7.4%
48	Grand Total Implementation Cost (people only)	1,931,278	13,129,731	15,870,613	20,054,420	14,760,140	-	-	-	-	-	-	\$ 65,746,181	100.0%	45.9%

State of Tennessee
ERP Automation Assessment Project
Scenario 2: Not Replacing TDOT Financial and Not Replacing TIS

	Phases -->	Acquire.	HR/Payroll		Fin/Purch.		TDOT		Upgrade					% of Total	
	Cost Category	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Impl. (people)	10-yr Total
49															
50	Application Software License														
51	Financial Mgmt., Budget Dev., Procure., Inventory				4,400,000								\$ 4,400,000		
52	HR/Payroll		4,500,000										\$ 4,500,000		
53	Total Application Software License	-	4,500,000	-	4,400,000	-	-	-	-	-	-	-	\$ 8,900,000		6.2%
54	Software Maintenance Fee														
55	Financial Mgmt., Budget Dev., Procure., Inventory				792,000	792,000	792,000	792,000	792,000	792,000	792,000	792,000	\$ 6,336,000		
56	HR/Payroll		810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	\$ 8,100,000		
57	Total Software Maintenance Fee	-	810,000	810,000	1,602,000	1,602,000	1,602,000	1,602,000	1,602,000	1,602,000	1,602,000	1,602,000	\$ 14,436,000		10.1%
58	All Other (facilities, etc.)		310,000	310,000	310,000	155,000							\$ 1,085,000		0.8%
59	Annual Operating Costs (data center)		1,445,783	1,595,783	1,545,783	1,445,783	1,495,783	1,445,783	1,445,783	1,445,783	1,445,783	1,445,783	\$ 14,757,831		10.3%
60															
61	Total Implementation Cost	1,931,278	20,195,514	18,586,396	27,912,203	17,962,923	3,097,783	3,047,783	3,047,783	3,047,783	3,047,783	3,047,783	\$ 104,925,013		73.2%
62															
63	Ongoing Support / Operations														
64	Help Desk / Functional Support (central)	-	-	-	784,000	1,151,500	1,519,000	1,519,000	1,519,000	1,519,000	1,519,000	1,519,000	\$ 11,049,500		7.7%
65	Help Desk / Functional Support (in agencies)	-	-	-	336,000	493,500	651,000	651,000	651,000	651,000	651,000	651,000	\$ 4,735,500		3.3%
66	Technical Operations and Support	-	-	-	630,000	945,000	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	\$ 9,135,000		6.4%
67	Ongoing Training	-	-	-	210,000	385,000	560,000	560,000	560,000	560,000	560,000	560,000	\$ 3,955,000		2.8%
68	Other	-	-	-	-	-	-	-	-	-	-	-	\$ -		
69	Total Support / Operations	-	-	-	1,960,000	2,975,000	3,990,000	3,990,000	3,990,000	3,990,000	3,990,000	3,990,000	\$ 28,875,000		20.1%
70															
71	Upgrade in Year 6														0.0%
72	Contractor							8,273,395					\$ 8,273,395		5.8%
73	State Employees							1,258,995					\$ 1,258,995		0.9%
74	Total Upgrade Cost							9,532,390					\$ 9,532,390		6.7%
75															
76	Total Annual ERP Cost	1,931,278	20,195,514	18,586,396	29,872,203	20,937,923	7,087,783	16,570,173	7,037,783	7,037,783	7,037,783	7,037,783	\$ 143,332,402		100.0%
77															
78	Cumulative ERP Cost	1,931,278	22,126,792	40,713,188	70,585,391	91,523,314	98,611,097	115,181,270	122,219,053	129,256,836	136,294,619	143,332,402			

State of Tennessee
ERP Automation Assessment Project
Scenario 2: Not Replacing TDOT's Financials and Not Replacing TIS

Financial Summary																	
	Phases -->	Acquire.	HR/Payroll			Fin/Purch.	TDOT		Upgrade								
	CBA Component	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Year 11	Year 12	Total	
1	ERP Implementation	1,931,278	20,195,514	18,586,396	29,872,203	20,937,923	7,087,783	16,570,173	7,037,783	7,037,783	7,037,783	7,037,783	143,332,402	7,037,783	7,037,783	157,407,969	
2																	
3	Existing System Cost -- HR/Payroll				1,292,752	2,178,517	2,243,805	2,293,336	2,354,518	2,811,061	2,484,983	2,484,983	18,143,954	2,484,983	2,484,983	23,113,920	
4	Avoided System Cost -- HR/Payroll (planned)	255,945	31,804	31,804	280,304	60,304	60,304	60,304	60,304	60,304	60,304	60,304	1,021,985	60,304	60,304	1,142,593	
5	Existing System Cost -- Financials/Procurement						9,336,359	9,307,109	9,421,810	9,546,696	9,734,013	9,734,013	57,080,001	9,734,013	9,734,013	76,548,028	
6	Avoided System Cost -- Financials/Procurement (planned)	930,419	1,205,580	2,799,269	1,482,269	1,482,269	1,626,269	1,482,269	1,482,269	1,482,269	1,482,269	1,482,269	16,937,420	1,482,269	1,482,269	19,901,958	
7	Existing System Cost -- TDOT												-	-	-	-	
8	Avoided System Cost -- TDOT (planned)												-	-	-	-	
9	Total System Cost	1,186,364	1,237,384	2,831,073	3,055,325	3,721,090	13,266,737	13,143,018	13,318,901	13,900,330	13,761,569	13,761,569	93,183,360	13,761,569	13,761,569	120,706,498	
10																	
11	Value Pocket Benefits/Savings -- HR/Payroll				1,269,809	2,539,618	3,809,427	3,809,427	3,809,427	3,809,427	3,809,427	3,809,427	26,665,990	3,809,427	3,809,427	34,284,844	
12	Value Pocket Benefits/Savings -- Financials/Procurement					641,090	1,282,180	2,564,359	3,846,539	3,846,539	3,846,539	3,846,539	19,873,785	3,846,539	3,846,539	27,566,863	
13	Value Pocket Benefits/Savings -- TDOT Phase												-			-	
14	Total Value Pocket Benefits/Savings	-	-	-	1,269,809	3,180,708	5,091,607	6,373,786	7,655,966	7,655,966	7,655,966	7,655,966	46,539,775	7,655,966	7,655,966	61,851,707	
15																	
16	Net Benefit	(744,914)	(18,958,130)	(15,755,323)	(25,547,069)	(14,036,125)	11,270,560	2,946,632	13,937,084	14,518,513	14,379,752	14,379,752	(3,609,268)	14,379,752	14,379,752	25,150,237	
17																	
18	Cumulative Net Benefit (breakeven)	(744,914)	(19,703,044)	(35,458,367)	(61,005,436)	(75,041,561)	(63,771,001)	(60,824,369)	(46,887,286)	(32,368,772)	(17,989,020)	(3,609,268)		10,770,484	25,150,237		
19																	
20	Internal Rate of Return (IRR)												-0.9%	2.3%	4.6%		
20	Risk Adjustment -- ERP Implementation	(1,931,278)	(20,195,514)	(18,586,396)	(29,872,203)	(20,937,923)	(7,087,783)	(16,570,173)	(7,037,783)	(7,037,783)	(7,037,783)	(7,037,783)	(143,332,402)	(7,037,783)	(7,037,783)	(157,407,969)	
21	0.0%																
22	Risk Adjustment -- System cost	1,186,364	1,237,384	2,831,073	3,055,325	3,721,090	13,266,737	13,143,018	13,318,901	13,900,330	13,761,569	13,761,569	93,183,360	13,761,569	13,761,569	120,706,498	
23	0.0%																
24	Risk Adjustment -- Value Pocket Benefits/Savings	-	-	-	1,269,809	3,180,708	5,091,607	6,373,786	7,655,966	7,655,966	7,655,966	7,655,966	46,539,775	7,655,966	7,655,966	61,851,707	
25	0.0%																
26																	
27	Risk-Adjusted Net Benefit	(744,914)	(18,958,130)	(15,755,323)	(25,547,069)	(14,036,125)	11,270,560	2,946,632	13,937,084	14,518,513	14,379,752	14,379,752	(3,609,268)	14,379,752	14,379,752	25,150,237	
28																	
29	Cumulative Net Benefit (Risk Adjusted)	(744,914)	(19,703,044)	(35,458,367)	(61,005,436)	(75,041,561)	(63,771,001)	(60,824,369)	(46,887,286)	(32,368,772)	(17,989,020)	(3,609,268)		10,770,484	25,150,237		
30																	
31	Internal Rate of Return (IRR)												-0.9%	2.3%	4.6%	6.4%	